THE ETHNOGRAPHICAL MUSEUM OF SWEDEN, STOCKHOLM
(STATENS ETNOGRAFISKA MUSEUM)
NEW SERIES. PUBLICATION No. 4

ZAPOTECAN ANTIQUITIES

AND

THE PAULSON COLLECTION IN THE ETHNOGRAPHICAL MUSEUM OF SWEDEN

BY

S. LINNÉ

WITH 27 TEXT FIGURES AND 32 PLATES

BOKFÖRLAGS AKTIEBOLAGET THULE
STOCKHOLM SWEDEN
1938

Digitized by Google

Printed in Sweden by

TRYCKERI AKTIEBOLAGET THULE
STOCKHOLM 1938

Digitized by Google

To

A. E. PAULSON

Generous and sympathetic patron of archaeological researches in Mexico this volume is respectfully dedicated by the Ethnographical Museum of Sweden, Stockholm.

Digitized by Google

Digitized by Google

C O N T E N T S

PREFACE 9
ZAPOTECAN ANTIQUITIES — AN INTRODUCTORY NOTE 10

PART I
THE COUNTRY AND ITS INHABITANTS 13
HISTORICAL DATA RELATING TO THE ZAPOTECS BEFORE AND DURING THE PERIOD OF THE CONQUEST 19
MONTE ALBAN 30
MITLA 41

PART II.
STUDIES IN ZAPOTECAN CULTURE 55
Trepanning and tooth-mutilation 57
Clothing and textile art 60
Weapons 63
Musical instruments 66
Pottery 66
Stone work 69
Metals and metallurgic technique 70
Religious cenceptions and social organization 77
Picture writing and calendar 81
Graves and funeral customs 88
The age of the Zapotecan culture 97

PART III
FUNERARY URNS 97

SUMMARY AND CONCLUSIONS 165
BIBLIOGRAPHY 172
INDEX 188

Digitized by Google

Digitized by Google

P R E F A C E

The present work is dedicated to Mr. A. E. Paulson, of Puebla and New York, as a tribute of gratitude for the generous interest he has repeatedly shown in regard to the Ethnographical Museum of his native country. The valuable and extensive collections from Mexico that he has donated to the Museum are among the most important gifts of which that institution has ever been the recipient. To the Mexican expeditions sent out by the Ethnographical Museum of Sweden on the initiative of the Swedish Minister in Mexico, Envoyé C. G. G. Anderberg, he not only lent financial support but also enriched the collections of the expedition with valuable ethnographical and archaeological objects.

Both to Mr. Paulson and to the Director of the Museum, Professor Gerhard Lindblom, I wish to express my sincere thanks for having entrusted to me the publication of this beautiful and interesting material, and for having placed the requisite fund at my disposal.

Professor Alfonso Caso has kindly put into my hands the works so far published by him on his epoch-making excavations in Oaxaca, as well as photographs of the ruins on Monte Alban. Miss Bodil Christensen, of Mexico City, has assisted me with various data and informations, and also seen to the photographing of a funerary urn which originally formed part of Mr. Paulson's collection, but subsequently was handed over to the National Museum of Mexico. To Mrs. Elsie McDougall, Woodstock, New York, I remain greatly indebted for placing at my disposal photographs and information concerning the use of blow-gun in Oaxaca.

The photographs of the objects here reproduced from Mr. Paulson's collection have been made by Mr. Gunnar Nykvist, of the Ethnographical Museum. With a view to avoiding the sameness that would be apt to affect the reproduction of the sepulchral urns which — at any rate at a superficial glance — are of a fairly similar appearance, he has aimed at giving variety to the illustrative material by photographing interesting details. The cleardrawing of the maps has been carried out by Miss Anna Lisa Dahlén, of Göteborg.

My Swedish manuscript has been translated into English by my friend Mr. Magnus Leijer, of Göteborg.

Digitized by Google

ZAPOTECAN ANTIQUITIES — AN INTRODUCTORY NOTE

The archaeological collections presented to the Museum by Mr. Paulson — totalling 1.140 exhibits — originate from various parts of Mexico. The majority, however, comes from Oaxaca, where from the 1890's he during several decades was engaged in business. For different reasons it has been considered the best plan to use the available funds in the first place for the publication of the Zapotecan funerary urns contained in the collections. Of the Oaxaca material the greater part is Zapotecan and consists of 79 funerary urns, 24 incense burners, 123 clay vessels of different kinds, 65 clay figurines and heads, 10 whistles, 12 sculptures, 9 heads and 6 barkbeaters of stone, 3 sculptured stone tablets, 37 small stone figurines and amulets, together with a great number of stone beads.

Those — artistically as well as technically — most highly perfected products of Zapotecan ceramic art, the funerary urns, have, apart from an essay published by Eduard Seler in 1890, never yet been subjected to any really searching study. A collection of these objects preserved in the Museum of the University of Pennsylvania has been published by J. Alden Mason with explanatory notes in more or less popular form. But the very considerable number of funerary urns that have elsewhere been depicted have as a rule only served as examples of Mexican art, or as illustrations to the fairly meagre accounts of Zapotecan culture in pre-Spanish times given in handbooks.

The variety of peoples that are contained within the borders of the present-day federal republic of Mexico presented at the time of the arrival of the Spaniards a motley picture from a cultural point of view, and even 400 years of contact with European civilization have failed to obliterate the characteristic traits of the different tribes.

The ancient cultures had no doubt largely evolved from the same source, and those which had reached the highest development possessed many features in common, as, e. g., in regard to astronomy and calendar, Ancient Mexico's proudest conquests in the realms of spiritual culture. But these peoples were at the same time so sharply differentiated that any description of cultural conditions at the time of discovery — at any rate if carried out by scientific methods — should preferably be in the form of separate monographs on the different peoples and cultures. Apart from

Digitized by Google

Fig. 1. Map showing important ruin places (▲) in southern Mexico and northern Central America.

George C. Vaillant's analyses of the Early Cultures in the Valley of Mexico, based on an exceedingly extensive material obtained through strictly scientific excavations, of the cultures of Mexico proper only that of the Totonac Indians has, by Walter Krickeberg, been subjected to exhaustive study. Eduard Seler, hitherto the leading authority on Ancient Mexico, entertained plans of drawing up a monograph on the Zapotecs. Unfortunately the realization of his project was denied to him. His study of the wall-paintings of Mitla, published as early as 1895, nevertheless constitutes a first-rate contribution to the history of Zapotec culture.

In the year 1931 Zapotecan research entered on a new phase. Then Professor Alfonso Caso began his excavations on Monte Alban. This work has so far been continued each winter and the area of exploration has been extended to include Mitla and into the Mixtec country. Through these excavations not only has been obtained a magnificent and extensive material — in part exceedingly valuable even from a monetary point of view — but there have also begun to be cleared up problems as regards the history of the development of Zapotecan culture that hitherto have re-

Digitized by Google

mained veiled in obscurity. There is now a beginning possibility not only of constructing a picture of the past, but also of studying the history of its development.

The work herewith presented has no pretensions whatever to be anything beyond a brief description of the Zapotecan culture. My visit to Oaxaca in 1932 was no more than a short sojourn, and therefore I have had to fall back upon the observations made by others. In this I have as far as possible sought to supplement earlier accounts with the results attained by later researches. In view of the fact that no comprehensive work on the Zapotecs has yet been published, it seems to the author that even a work of the present character would fill a certain purpose seeing that at all events the most important material has here been brought together, and that, with no claim to bibliographical completeness, the more important part of the ever-growing literature on this subject is here indexed. What I have here written is therefore not directly addressed to the exceedingly few specialists, but to Americanists and antropologists in general. In order to meet the increasing interest in the important question of pre-Spanish intercourse between the New and the Old World via the South Seas, digressions from the original working plan have occasionally been made. Contributions to the elucidation of this important question from an American horizon should even be of interest to non-Americanists.

Theories are apt to prove short-lived, and fresh material from the field-work may easily change the picture of a vanished civilization. The objects produced by such a civilization nevertheless always retain their importance, by reason of which the enduring merit of this work is to be found in the section of it that also applies to the specialists, viz. the illustrations of the urns forming part of the Paulson collection.

Digitized by Google

PART I

THE COUNTRY AND ITS INHABITANTS

Thomas Gage, who 300 years ago travelled in Mexico and Guatemala, amply praises Oaxaca in the following terms:

"But of Oaxaca I shall say no more, but conclude that it is of so temperate an air, so abounding in fruits, and all provision requisite for man's life, so commodiously situated between the North and South Sea... that no place I so much desired to live in whilst I was in those parts as in Oaxaca".[1]

The state of Oaxaca is a country of eminently mountainous character due to the fact that the two mountain ranges skirting the coasts and encompassing Mexico here meet in their southern extension and attain a maximum altitude of 3,400 m. Oaxaca forms the eastern portion of "Mesa del Sur", which both in topographic character and in climate is a distinct region.[2] Through the isthmus of Tehuantepec, the easternmost portion of Oaxaca, where Mexico is constricted to its minimum width, there runs a valley in a north-to-south direction. This valley marks the border between the mountain-districts of Mexico and those of Central America, and in times of old also to some extent constituted a cultural boundary. In the earliest reports on Oaxaca, statements as to the inaccesibility of the country are continually recurring, and not without reason. Practically speaking, the whole of Oaxaca is mountainous, with only occasional interruptions of fertile valleys. The mountain slopes are frequently wooded. In the heart of the country three valleys meet. Remains of pre-Spanish habitation are here remarkably abundant, and it was here that the Spaniards built the city of Antequera, the present city of Oaxaca. From this point are thus radiating: towards northwest, the valley of Etla; southeast, Tlacolula; and south, Zaachila, or Zimatlan. This is the richest and most densely populated section of the state, and such was no doubt the case also in pre-Spanish times.

The sub-tropical climate of these fertile valleys is exceedingly pleasant. Really cold weather is unknown, and not even during the summer months does the heat become oppressive. The rainfall is light, but sufficient for the cultivation of maize. At an altitude of 1540 m above sea-level, the capital of the state has a mean temperature of 19° C., for January 16.6° and for May 21.7°. The mean annual rainfall

[1] Gage 1928: 121—122. [2] Cf. McBride 1923: 15—16.

Digitized by Google

is 575 mm, 114 of which fall in the month of June, while during the winter months there is practically no rain. By way of comparison it may be mentioned that at Tehuantepec, down on the coast, the mean annual temperature amounts to 27° C., while the rainfall does not exceed 440 mm.[3] It did not take the Spanish conquerors very long to discover that the country did not exclusively consist of inhospitable mountains, and Cortés reserved for himself a considerable portion of central Oaxaca, including the above-mentioned valleys, i. e. the very heart of the country. He was created a Marquess by the Emperor on the 6th of July 1529, and his title of "Marques del Valle (Marquis of the Valley) de Guajaca" (Oaxaca) refers to this tenure. In addition he possessed the greater part of eastern Oaxaca and Tehuantepec.

Although the state of Oaxaca has an area equalling three times that of Belgium (94,211 sq. km), its population in 1930 only just exceeded one million. A steady increase since census was first taken in 1793 can be noted, as then its population only numbered 411,336.[4] By 1868 it had grown to 646,725, and the figure for 1910 is recorded as only slightly below that for 1930. During the hard times and incessant fighting that followed upon the deposition of the dictator Porfirio Diaz in 1911, the population declined so that in 1921 it showed a decrease of 8.7%. Since that date, however, the record of 1910 has, as already mentioned, been beaten. It is probable that at the time of the discovery the population of Oaxaca, as in the rest of Mexico, approached the present figures, but that during the 16th century there took place a catastrophic decrease owing to the severe treatment meted out by the Spaniards to the Indians, the introduction of diseases from the Old World, etc.[5]

During the latter half of the 16th century the diocese of Oaxaca only numbered 560 Spaniards, 481 negroes, 50 mestizos and 30 mulattos. It is exceedingly probable that the Indian population of Oaxaca has only to a very slight degree become mixed with foreign elements by reason of the state being largely very inaccessible and little suited for colonization. According to the latest statistics (1930), Zapotec and Mixtec languages are spoken by 501,131 individuals, a figure most certainly not overestimated.[6]

The Zapotecs constitute the largest of the Oaxacan tribes, as well as being one of the largest not only in Mexico but in all America. According to Antonio García y Cubas, in 1876 they numbered 239,600.[7] In view of the fact that eight years earlier the population of the entire state did not quite amount to 650,000, but to-day exceeds one million, it follows that by now the Zapotecs — provided the increase has progressed at an equal rate — number some 370,000. According to the census of 1930, this figure is only given as 216,825. As during present conditions changes in population ought to be more or less uniform among the different tribes in the state of

[3] Sapper 1928 a: 155. [4] These figures, and those which follow, are taken from Sapper 1928:310 seq.
[5] Sapper 1924:100. [6] Mexico en cifras (Atlas estadístico). Mexico 1934. Table to map 13. [7] Starr 1901: 145.

Digitized by Google

Oaxaca, the above figures appear to indicate that the increase of population must be put down to the account of the mestizos.

No really comprehensive anthropological researches of scientific authenticity appear to have been made in Mexico outside the Maya region. The only work known to me, based on exact observations of a large number of individuals, and illustrated with excellent photographs, is that which has been published by Starr. Anthropometrical investigation and study were thus carried out during 1898—1901 among 23 tribes in southern Mexico and Yucatan. 249 Zapotec Indians at Mitla and Tehuantepec were subjected to study.[8] The most notable result of general importance is that these anthropological investigations appear to show that the inhabitants of Mitla constitute a mixed breed of Zapotecs and Mixtecs. The skeletal material from the graves of Monte Alban shows that no appreciable difference exists between the ancient Zapotecs and the present population of the Oaxaca valley from an anthropological point of view. An important study of the skulls of the Zapotecs was however carried out as early as the opening years of the 1890's.[9]

Linguistic works referring to Oaxaca are, however, numerous. A very excellent and clearly arranged synopsis has been compiled by Mechling, who mentions the most important of his authorities.[10] Valuable information is also given by Pauer.[11] The richness of the literature that in the cource of time has accumulated on this subject is apparent from the bibliography numbering 49 pages that heads Peñafiel's work "Gramática de la Lengua Zapoteca por un autor anónimo".[12] Mechling publishes a very good map of the linguistic families of Oaxaca, which shows that no exact boundary lines between the various linguistic areas can very well be drawn. For the purposes of practical work a more summary map, such as that published by Thomas and Swanton, will be found sufficiently adequate.[13]

Many authors have classified the linguistic stocks of Oaxaca. Mechling arrives at the following classification: Zapotec, Mixtec, Mazatec (each with three subdivisions), Chinantec, Chontal, Huave. Zoque (with two subdivisions) and Mexican (Aztec). This classification alone suffices to convey an idea of the confusion of tongues that prevails in this Mexican state. The Zapotec language is entirely distinct from the Mexican, but, although in itself independent, it somewhat approaches the Mayan language.[14]

Zapotec is spoken in central and southeastern Oaxaca within an area nearly amounting to one-half of that of the state. The Zapotecs appear to inhabit mainly the same region as in pre-Spanish times. The centre of Zapotec inhabitation falls (according to Mechling) within the districts of Tlacolula, east of Oaxaca City, Villa Alta, north of this region, Ocotlan, Zimatlan, Ejutla and Miahuatlan, all to the south of the state capital. Next comes a belt in an eastward direction stretching on to Tehuantepec. Detached villages are also found in a westerly direction

[8] Starr 1902 a:27—28, 31—32. [9] Martínez Baca 1897:237—264. [10] Mechling 1912:643—682. [11] Pauer 1927:55—65. [12] Peñafiel 1886—1887. [13] Thomas and Swanton 1911. [14] Seler 1895:17.

Digitized by Google

from the central area almost as far as the border of the Guerrero. According to the census of 1930, Zapotec was the exclusive language of 111,660 people. Of the Mixtecs — who then numbered 172,114 — 111,391 spoke exclusively Mixtec.

To what extent the boundaries between the different peoples were broken up and remodelled during pre-Spanish times is of course difficult to pronounce upon until the country has been more thoroughly investigated by archaeologists. From authentic sources it would seem that in a peaceable manner Mixtecs, by marrying into the tribe of the Zapotecs, settled in the country of the latter. According to what is stated by Juan de Mata (1580), as early as the 13th century a number of Mixtecs had taken up their abode in the capital of the Zapotecs, Zaachila, or Teozapotlán.[15] But on the other hand it is evident, among other things from certain graves at Monte Alban, that the Mixtecs had probably taken possession of that place. They had also made themselves masters of certain neighbouring places, such as Xoxocotlan, Cuilapan and Nazareno, as well as some that lay farther east, among them Mitla, cf. p. 54, and that at a date which cannot have been very long before the arrival of the Spaniards. Very interesting is Saville's statement that the village of Xoxocotlan, in the Zaachila valley, "is occupied by pure-blood Indians speaking the Mixtecan dialect".[16] His excavations of mounds close to that village has, however, resulted in showing that the culture that here flourished was purely Zapotecan. The head city of the Zapotecs lay besides only a few kilometres south of Xoxocotlan.

Starr, who was well acquainted with the country and the people, gives the following descriptive account of the Zapotecs: "The Zapotecs of to-day are really, like their ancestors of the past, among the most pleasing Indians of Mexico. They are intelligent, industrious, acquisitive, and progressive. In many of their towns the municipal building is creditable. The tribe has produced men eminent as political leaders, soldiers, and scholars. The great President, Juarez, was a full-blood Zapotec."[17]

The Zapotecs are not only in point of numbers one of the most important of the tribes living in Mexico. They occupied, both geographically and culturally, an intermediate position between, on one side the Mayas of Yucatan, Guatemala and neighbouring parts of Mexico, Honduras and Salvador, and on the other the civilized peoples in and around the Valley of Mexico. While we possess a fairly comprehensive knowledge of the above-mentioned ancient civilizations, investigation into the original culture of the Zapotecs has been greatly neglected. Latter years' research work, above all that carried on at the ancient city of Monte Alban under the direction of Professor Alfonso Caso, has brought investigation on this subject along with giant strides.

The Zapotecs have played an important part among other things by having

[15] Lehmann 1933:97. [16] Saville 1899: 350. [17] Starr 1901 : 150.

Digitized by Google

Fig. 2. Sketch map of Oaxaca and neighbouring parts of southern Mexico.

Digitized by Google

transmitted culture-generating impulses from the Mayas to more northern regions. It is true that the theory has been propounded that the Calendar, the highest form of abstract thinking among the Indians of ancient America, was conceived by the Zapotecs and from them passed on to the Mayas and to the Teotihuacan culture.[18] Among the first-mentioned of these peoples it would subsequently have been developed and perfected. That such was the case does not, however, appear very probable. The earliest known epoch at Monte Alban may date from about the same era as the earliest period in Uaxactun, the most ancient of Mayan towns.[19] But "Monte Alban I" represents a primitive stage, whilst Mayan civilization has been found highly developed already in Uaxactun. As to the knowledge possessed by the Teotihuacan people of the calendar we have no information, but the peak of that culture must be supposed to have occurred considerably later than that of the Maya People.

According to Aztec traditions, this people immigrated into the Valley of Mexico from Chicomoztoc, their mythical cradle in the north. That they entered the valley from the north is perhaps possible, but that their "cradle" was situated in the extreme north of the country may well be doubted. Had this actually been the case, then they must have inherited a great deal from Teotihuacan culture. Much that is true, or at any rate a kernel of truth, may naturally be contained in the ancient traditions, but it may be questioned whether these have not frequently been too readily accepted as dogmas.

Purely archaeological testimony cannot, on the other hand, be disregarded, and everything indicates that the higher civilizations of the Valley of Mexico will be found to have received their impulses from the south. Shortly before the conquest the Aztecs had become masters of parts of Oaxaca, but there is no doubt of the Teotihuacan culture having, via the ancient route over Cholula, Tepeaca and Teotitlan del Camino, been in contact with the Zapotecs. Archaeological field work will no doubt prove the correctness of this supposition. As to this, a beginning has already been made. A grave of the purest Zapotec style, recently discovered at Tehuacan, in the state of Puebla, contained artefacts of Teotihuacan type in association with others of Zapotecan origin. So far northwest as this no evidence of the extension of Zapotecan culture had previously been found. It is possible that this find represents an outpost on the ancient trade and traffic route.

It has also been suggested that the culture of the Zapotecs was an offshoot from the "Toltec" civilization that, according to the more or less subjective opinions of sundry scientists, either before or after the fall of Tollan-Teotihuacan so radically influenced the Zapotecs. At a date long before the Aztec invasion, the "Toltecan" Pipils had already penetrated far south into Central America, but, as will be

[18] Seler 1904 b: 54—55. [19] Vaillant 1935. Cf. also Apenes 1936: 6 seq.

Digitized by Google

apparent from what will be adduced farther on in this work, the Zapotecs had already attained a highly developed culture before elements of the Teotihuacan culture began to appear in association with the native ones.

After the above brief description of the country and its peoples a few data will be given regarding the history of the Zapotecs prior to the arrival of the Spaniards, and from the time of the conquest. Then will follow summary descriptions of the two largest ancient towns within the Zapotecan domains, viz. Monte Alban and Mitla. In this connection certain fresh material will be added to earlier, and more generally known accounts. Thereafter some chapters will be devoted to the spiritual culture of the Zapotecs — religious conceptions, social organization, picture writing, calendar and funeral customs — and to their material culture, with appropriate comparisons. The concluding section of this work will deal with the sepulchral urns, always found associated with the graves which constitute the most typical products of Zapotecan art.

HISTORICAL DATA RELATING TO THE ZAPOTECS BEFORE AND DURING THE PERIOD OF THE CONQUEST

Father Bernardino de Sahagun, in his work so invaluable to our knowledge of ancient Mexico, when giving account of the different peoples that inhabit the country, makes no mention of the Zapotecs. Sahagun's informants were probably individuals of rather humble station, inhabitants of the Valley of Mexico. From the elders of the village of Tepeopulco and Santiago de Tlatelulco (the northern part of Mexico City) he had caused to be selected "teachers" that were experienced, sensible, and well versed in the traditions. But if he had been in a position to interrogate the political leaders of the ancient Aztec kingdom, his information on this point would no doubt have been considerably more comprehensive. But it cannot be supposed that there existed any particularly lively contact between the Zapotecs and the Aztecs; they were far remote from each other, with other tribes occupying the intervening space, and it was only at a late date that "the Romans of Mexico" had begun to interest themselves in the inaccessible mountain districts of Oaxaca. The presence of gold may have acted as an incentive, or perhaps still more that of jadeite which was more highly valued, but of still greater importance to them was no doubt their being able by this route to dispatch trading expeditions along the Central American Pacific coast. In the course of their trading activities they had already got into touch with the northernmost Zapotecs in consequence of one of the main trade routes leading via Tuxtepec (on Rio Papaloapan, near the border between the present states of Oaxaca and Vera Cruz) to Xicalango, on Laguna de

Digitized by Google

Fig. 3. The hieroglyph of Uaxyacac (Oaxaca) from Codex Mendoza, p. 17.

Términos. The last-mentioned place was an important trading centre, from which new lines of communication were extended to Yucatan, Guatemala, Chiapas, etc. This route was also followed by the Spanish conquistadors, but to them, as to the Mexicans, it was considerably more difficult to reach the Pacific coast by way of the country of the Zapotecs.

The first serious encounter, which at the same time opened up the new trade route, took place in the reign of Moctezuma Ilhuicamina (1440—1469). In order to avenge a trading expedition that had been massacred and robbed in Mictlan Cuauhtla a punitive expedition was set afoot which resulted in the entire population in the native district of the miscreants being exterminated and replaced by Aztec colonists.[1] This measure was, according to the chronicler, acclaimed with satisfaction by the inhabitants of the surrounding territories, which may possibly be accounted for by the circumstance that these people, who must have been Zapotecs, had by the Mixtecs been expelled from the region now colonized by the Aztecs, and that the former had been subjected to the punitive measures just referred to. At the present stage of research it is hardly possible to determine the then boundaries between Mixtecs and Zapotecs. It is of interest to note that the above military expedition is stated to have resulted also in the control of Tuxtepec and Teotitlan. These were of importance in connection with the above-mentioned northern trade route.

The colony thus established, which presumably was of a military character, was known as Uaxyacac, which means "at the hill of the Algarobas". This is an Aztec name, but as in Zapotec it has the same meaning, it appears most probable that Uaxyacac is a translation of the earlier name. After that Pedro de Alvarado, by order of Cortés, in 1522 had assumed charge of the country — taken by conquest in the previous year — it was named Segura, because the majority of the Spaniards that had moved into it came from Segura de la Frontera (now Tepeaca),[2] a place which after the conquest of Tenochtitlan-Mexico had lost its importance. After another change of its name to Antequera, a reversion was made in favour of its ancient name which, slightly distorted, became Oaxaca, fig. 3.

[1] Tezozomoc 1878: 354 seq. [2] Díaz del Castillo 1912, vol. 4: 243.

Digitized by Google

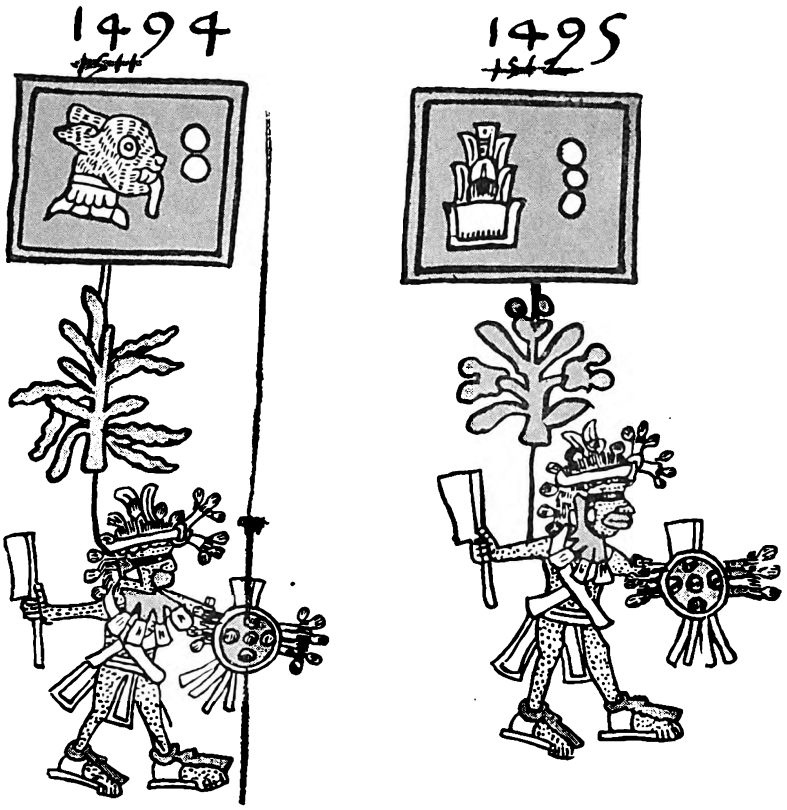


Fig. 4. The conquest of Mitla and Teozapotlán from Codex Telleriano-Remensis. According to the interpreter of the codex, "the Mexicans subjugated the city of Mictla in the province of Huaxaca in the year two Tochtli, or A. D. 1494", and "the city of Teutzapotlan, which was the capital of the province of Huaxaca in the year three Acatl, or A. D. 1495." (Cf, Codex Vaticanus 3738, p. 126).

That Uaxyacac was a military colony is evident from the fact that several neighbouring Zapotec towns appear in the tribute rolls. Their most important contributions to Tenochtitlan consisted of maize, beans, fine textiles, gold disks and bags of cochineal.[3] In spite of this, it seems that the Zapotecs were still maintaining their independence. In the reign of Moctezuma Ilhuicamina's successor, Axayacatl, Aztec armies again invaded the Zapotec country even as far as Tehuantepec. No appreciable alteration of the political situation can be said to have been thereby effected. But gradually the Aztecs began to subdue the country in earnest. This happened in the reign of Ahuizotl. The year 1494 sees the fall of "the city of Mictla in the province of Huaxaca", and 1495 that of "the city of Teutzapotlan, which was the capital of the province of Huaxaca", according to the interpreter of the Codex Telleriano-Remensis.[4] It is from this codex that the illustrations here given have been reproduced (fig. 4). According to Seler, who has carefully analysed the sparse data referring to the pre-Columbian history of the Zapotecs, the picture writing does not entirely agree with this interpretation: "In it only the conquest of Uaxyacac and Teotzapotlan — which may refer, of course, to the entire province, that is, to the

[3] Codex Mendoza, p. 46. [4] Codex Telleriano-Remensis 1899: p. 40 reverso; 1831: p. 22.

Digitized by Google

whole valley — is expressed by the hieroglyphs of these two names and a prisoner of war adorned for the sacrificio gladiatorio."[5] The conquest of Teozapotlán is also recorded in Codex Mendoza. Somewhat later, in 1497, were the towns on the coast brought to subjection.

In consequence the routes were laid open for Aztec trading expeditions to the Pacific coast and within the Zapotec country, but this was not equivalent to a conclusive subjugation of the people. To the inaccessible mountain regions their influence in all certainty did not extend. The situation, above all where trading activities were concerned, was precarious. Matters came to a head when, in 1502, an Aztec princess was given in marriage to Cocijo-eza, king of the Zapotecs. Their son, Cocijopij, became the last king of Tehuantepec.

Thus it is not surprising that even by the Zapotecs Cortés was hailed as a liberator from Aztec oppression. At first they readily submitted to the enemies and vanquishers of their oppressors, but their subsequent repeated revolts show that they soon perceived their misapprehension as regards the designs of their new masters.

With some few brilliant exceptions, it cannot be said that the Spanish conquerors are remarkable for any extensive authorship. They were emphatically soldiers, bold and unscrupulously rapacious, whose only object was to acquire as much as possible of the good things of life. Such few monks as accompanied the military bodies had their hands full with the conversion of heathens, and only when times had become more settled did the springs of literature begin to flow, and such invaluable works as, e. g., that of Father Bernardino de Sahagun, came into being. Only very few of the eye-witnesses have recorded their experiences, and Cortés has, so to speak, as part of his official duties reported on the conquest home to Spain in his well-known letters to the Emperor Charles V. The notes regarding the Zapotecs — in the following Cortés and Bernal Díaz are mainly drawn upon — are pretty meagre, vague, and occasionally contradictory. Giving an account of the course of the conquest is a matter beset with some difficulty because the chronological data of the different campaigns are lacking in exactness, and seeing that the spelling of tribes and localities vary within wide limits, errors are hardly to be avoided. Our most important informant as regards the Zapotecs is Bernal Díaz del Castillo who personally took an active part in their subjugation. As it was only in his old age that he noted down his reminiscences, it is only natural that these cannot be absolutely exact in every particular. In Cortés' reports to the Emperor there is also some material dealing with Oaxaca and the Zapotecs.

The first mention by Bernal Díaz of the Zapotecs occurs in the following note concerning the inhabitants of Cholula (October, 1519), where he says:

[5] Seler 1895: 14.

Digitized by Google

... "the Caciques and priests and many other Indians came out to receive us. Most of them were clothed in cotton garments made like tunics, such as the Zapotec Indians wear, I say this for those persons who have been in that province and have seen them, for that is what they wear in that city."[6]

When next he writes, interest centres directly upon them. When Montezuma (at the end of November, or in the beginning of December, 1519) was interrogated by the Spaniards as to where the gold mines were situated, he told them that "they usually brought most of the gold from a province named Zacatula ... At the present time they also brought it to him from another province called Tustepec ... Near that province there were other good mines in a land that was not subject to him, named the land of the Chinantecs and Zapotecs, who did not obey his rule."[7]

A relation of Cortés, named Pizarro,[8] was instructed to reconnoitre the mines in the last-mentioned district. He attained his object and collected a great deal of gold, but when he tried to enter the country of the Chinantecs he encountered opposition. These people declared that "not a single Mexican should enter their country, for they would kill them, but that the Teules (Spaniards) should pass in and be welcome". They were well received, were presented with gold, and Pizarro brought with him to Cortés two caciques who "came to offer themselves as vassals to His Majesty".[9] This account and that given by Cortés in his second report do not quite agree. Cortés states that four expeditions were dispatched, while only two are mentioned by Bernal Díaz. As far as can be judged from the place-names, the objective of all of them was the northern part of the present State of Oaxaca. What Bernal Díaz calls "Zacatula" is presumably identical with the locality called "Tamazulapa" by Cortés. The exact situation of neither place cannot now be specified.

The country made a very good impression, and the people "were better dressed than any others we have seen, and, as it seemed to them, more intelligent".[10] Judging by everything, however, they had as already hinted entered Oaxaca, as is also apparent from the following. The other gold-seekers made their way to Teniz (now Tanetze, district of Villa Alta, Oaxaca), Tuchitepeque (now Tuxtepec), and Malinaltepeque. The last-mentioned place was according to Cortés situated 12 leguas inland from Tuxtepec.

After the Spaniards had been forced to retreat from Tenochtitlan-Mexico, on June 30th, 1520, and while preparing for a renewed attack as soon as his badly mauled, and decimated troops should have recuperated and been reinforced, Cortés made efforts to consolidate his position east of the valley. With Tlaxcala for a base, vigorous forays were made in various directions. Segura de la Frontera (now Tepeaca) was established, and several other successful operations were carried out. During this interval, of which at least the early part must have been rather gloomy,

[6] Díaz del Castillo 1910, vol. 2: 2. [7] Díaz del Castillo 1910, vol. 2: 128.

[8] Not to be confused with the conqueror of the Inca empire and of his brothers. The Pizarro mentioned above "died at the hands of the Indians", Díaz del Castillo 1916, vol. 5: 240).

[9] Díaz del Castillo 1910, vol. 2: 133. [10] Cortés 1908, vol. 1: 243.

Digitized by Google

some good news nevertheless was received. In his second letter to the Emperor, dated at Segura de la Frontera on 30th October, 1520, Cortés writes:

"I remained in this city (Izzucan, now. Matamoros Izúcar) until I could leave it well peopled and pacified. There likewise came to it, to offer themselves as vassals of Your Majesty the chief of the city called Guajocingo, and the lord of another city, ten leagues distant from that of Izzucan, on the frontier of Mexico. There came also people from eight of the towns of the province of Coastoaca (Oaxaca). This is one of those mentioned in previous chapters, where the Spaniards, whom I had sent to seek gold in the provinces of Zuzula and Tamazula (for they joined each other) had said that there were very great towns and houses, well built of the best masonry, such as we had not seen in any of these parts. This province of Coastoaca is forty leagues from that of Izzucan. The natives of the said eight towns offered themselves as vassals of Your Highness, and said that four others in the same province would come very soon. They asked me to excuse them if they had not dared to do so before for fear of the Culuans (the Aztecs), but said that they never had taken up arms against me, nor had they participated in the killing of any Spaniards, and that always since offering themselves to the service of Your Highness, they had been good and loyal subjects in their hearts, but had not dared to manifest it out of fear of the Culuans."[11]

In the general revolt that followed the expulsion of the Spaniards from Tenochtitlan, the news of which spread with extraordinary rapidity, some four score adventurers had been killed at Tuxtepec.[12] The Chinantecs remained loyal, and two Spaniards stationed among them did not meet with the same fate as other small detachments in various places.[13] When in the end Tenochtitlan had fallen (Aug. 13th, 1521), and conditions had become more quiet, Cortés, who by then could spare considerable military forces, decided to set about the conquest of those places. He had all the more reason not to delay with this as numbers of Aztecs had fled down that way after the taking of their capital. The knowledge that the country abounded in gold was naturally in itself a contributing incitement. Gonzalo de Sandoval was, in the closing days of October, 1521, given command of a comparatively large force with orders to subjugate the entire district and thereby restore Spanish prestige, and to establish colonies. This enterprise was seemingly successfully carried out, and the cacique who was responsible for the killing of the Spaniards was burnt — as a warning to others. Sandoval then detached Captain Briones to subdue the neighbouring Zapotecs. Of this expedition Bernal Díaz gives the following spirited account:

"When this was over he sent to summon to peace some pueblos of the Zapotecs, (another province about ten leagues distant from this town of Tuxtepec) and they would not come, so he sent a Captain to bring them to peace. This was a man named Briones, often mentioned by me before, who was Captain of a sloop, and a good soldier in Italy according to his own account, and Sandoval gave him over one hundred soldiers, among them thirty musketeers and crossbowmen, and over a hundred allies from the pueblos which had made peace.

As Briones went on his way with his soldiers in good order, it seems that the Zapotecs were

[11] Cortés 1908, vol. 1: 317—318.

[12] Of this occurrence several versions are given by the chroniclers. Díaz del Castillo (1912, vol. 4: 228), the only writer that took part in the subsequent punitive expedition, says: "sixty Spanish men and women from Castile who had remained behind ill in that pueblo when Narvaez came, and that was the time when we were defeated in Mexico, and then they (the Mexicans) slew them in this same pueblo". [13] Cortés 1908, vol. 2: 56—58.

Digitized by Google

aware of his coming against their pueblos and they arranged an ambush on the road, which caused them (the Spaniards) to turn back in a hurry, rolling down some steep inclines, and more than a third of his soldiers were wounded and one of them died of his wounds. These hills where the Zapotecs live are so steep and difficult that horses cannot go among them, and the soldiers had to march on foot, one by one, in and out, along narrow paths, and there was always mist and dew and the paths were slippery. The Zapotecs were armed with very long lances, longer than ours are, with a fathom of cutting edge of stone knives which cut better than our swords, and with shields which cover the whole body, and many arrows, javelins and stones, and the natives were very daring and wonderfully lithe, and with a whistle or cry which they give among those hills the voice resounds and reverberates for a considerable time, as we should say like echoes.

So the Captain Briones returned with his men wounded and one of them dead, and he himself came back with an arrow wound.

The pueblo where he was defeated is called Tiltepec[14] ... When Briones returned to make his report to Sandoval of what had happened, and told him what great warriors they (the Zapotecs) were, as Sandoval was in good spirits and Briones posed as being very valiant and was wont to tell how in Italy he had killed and wounded and cleft the heads and trunks of men, said Sandoval: 'It seems to me Señor Capitan that these lands are different from those where you (formerly) went soldiering' and Briones, half angry, replied and said that he swore to the truth of his statements and that he would rather fight against cannon and great armies of enemies whether of Turks or Moors than against those Zapotecs, and he gave reasons for it, that appeared acceptable. Still Sandoval told him he wished he had not sent him, since he was thus defeated, for he believed that he would have shown more valour, as he boasted he had done in Italy."[15]

Sandoval succeeded, however, to pacify the people of Tiltepec and "another province, which was called Xaltepec",[16] who were also Zapotecs:

"As many as twenty Caciques and chieftains made peace and brought a present of gold in the form of jewels of various workmanship and ten small tubes of gold in grains ...

The Chieftains came clothed in very long cotton clothes which reached to the feet worked with much embroidery and they were, so to say, like Moorish bornouses."[17]

Subsequently Sandoval sent out small flying columns with the main object of studying gold-washing and gold mines. As the country appeared rich in gold he made grants of parts of it to certain members of the expeditions. But rebellion was not long in breaking out, and "the first to revolt was Xaltepec". Under command of Luis Marin it was however subdued after many vicissitudes.[18]

Simultaneously with Sandoval setting out on his expedition to Tuxtepec, an assault was made on the Zapotecs along the more direct, southern route from Tepeaca. These people had accorded a friendly reception to the Spanish gold-seekers that had been sent out in 1519, as already mentioned above, and many of their caciques had voluntarily made submission to the Spaniards. The reverses of the latter in the Valley of Mexico induced the liberty-loving population to rise, and they even began to harass the inhabitants of such districts as had submitted, and to massacre small and isolated

[14] Distrito de Ixtlán or Distrito de Choapan, Oaxaca. [15] Díaz del Castillo 1912, vol. 4: 229—230.
[16] Jaltepec in Distrito de Choapan in the northeastern Oaxaca. [17] Díaz del Castillo 1912, vol. 4: 230—231.
[18] Díaz del Castillo 1912, vol. 4: 239—240.

Digitized by Google

Spanish outposts. Here stern measures were required. Of this, Cortés gives an account in his third report, dated at Coyoacan on May 15th, 1522:

"At this season, the lieutenant (Francisco de Orozco), whom I had left in the town of La Segura de la Frontera, in the province of Tepeaca, came to this city of Cuyoacan, and informed me how some of the natives of that province and other neighbouring ones, vassals of Your Majesty, were troubled by the natives of the provinces of Guaxacaque (Oaxaca) who made war on them because they were our friends, and, besides it being necessary to correct this evil, it was well to secure that province of Guaxacaque, because it was on the road to the South Sea, and to pacify it would be very advantageous as well for the aforesaid as for other reasons, which I will hereafter state to Your Majesty. The said lieutenant told me that he had privately received information respecting that province, and that we could subjugate it with a small force, because, while I was in the camp against Tenuxtitan (Tenochtitlan), he had gone there, as those of Tepeaca had urged him to make war upon the natives of it, but, not having taken more than twenty or thirty Spaniards they had forced him to return, less leisurely than he would have wished. Having heard his relation I gave him twelve horsemen and eight Spaniards, and ... the lieutenant left this city of Cuyoacan on the 15th October, 1521 ...

The Lieutenant of Segura de la Frontera departed with his people for the province of Guaxaca with many friendly warriors from that neighbourhood, and, although the natives of that province set themselves to resist, and fought two or three times very stoutly against him, they finally surrendered peacefully without sustaining any damage; he wrote very minutely respecting all this, informing me that the country was very good, and rich in mines, and he sent me a very remarkable sample of gold from it, which I also forward to Your Majesty; and he remained in the said province awaiting my commands."[19]

Orozco had evidently carried out his task to satisfaction, and, judging by place-names that are mentioned by certain chroniclers, his force had penetrated a considerable distance past the site of the present town of Oaxaca in the direction towards Tehuantepec. By order of Cortés he handed over, in the early part of 1522, his command to Pedro de Alvarado, who was charged with the subjugation of the important region surrounding Tututepec. This place is situated on the Pacific coast, near the mouth of Rio Verde, in Mixtec country. Even here fortune favoured the Spanish arms, and he established himself on the coast in occupation of the place in the Emperor's name.[20] A rising which soon ensued was put down by Alvarado, and thenceforth this part of the country remained peaceable.

At the end of 1523 Alvarado was dispatched by Cortés with a strong force for the purpose of making conquest of Guatemala. His line of march took him via Tehuantepec, whose inhabitants after the fall of Tenochtitlan had voluntarily subjected themselves to the Spaniards. It seems that the Zapotec country gave a tranquil impression, or it may rather be supposed that Alavardo's troops made a strong impression on the Zapotecs. But rebellion was smouldering, and soon broke out. When Rodrigo Rangel some time later followed on Alvarado's tracks and demanded of the Zapotecs that they would promise allegiance and pay tribute, he encountered stubborn resistance.

[19] Cortés 1908, vol. 2: 133—135. [20] Cortés 1908, vol. 2: 142—144.

Digitized by Google

His expedition had for its object some mountainous regions very difficult of approach, into which the might and authority of the Spaniards had so far never penetrated. In his fourth letter to the Emperor, dated at Tenuxtitan (Tenochtitlan) on October 15th, 1524, Cortés reports on the extension of the occupied territories:

..."and on the southern coast the conquered country extends from one sea to the other, without interruption, for more than five hundred leagues, with the exception of two provinces, one of which is called Zaputecas and the other Mixes, which lie between the province of Tecuantepeque and that of Chinanta and Guaxaca and that of Guazaqualco. The mountains here are rugged and difficult, so that they can hardly be crossed, even on foot, for twice I have sent people to conquer them but they have never been able to do anything against these Indians, who are well armed and entrenched in their mountains. They fight with lances twenty-five and thirty palms[21] long, very thick, and well made, with points of flint, and they have defended themselves with these and killed some Spaniards, and have done, and are doing, great mischief to their neighbours who are Your Majesty's vassals, assaulting them by night and burning their towns and killing them; to such an extent have they done this that many towns have rebelled and joined with them. To prevent this spreading, although I am at present short of men, I collected one hundred and fifty foot soldiers — the cavalry being useless — most of them cross-bowmen and musketeers, and four field pieces with necessary ammunition. This force I put under the command of Rodrigo Rangel, alcalde of Espiritu Santo, who, last year, had already marched against these same Indians but could not rout them on account of the rainy season which obliged him to return after two months spent in their province.

He left this city (Mexico) with his people on the 5th of February of this present year (1524), and I believe that — God willing — since they take a good equipment and go at a good season with many skilful Indian warriors of this city and its neighbourhood, they will put an end to the strife there, which will redound greatly to the Imperial Crown of Your Majesty; for not only do these people render no service but they molest those who are well disposed. The country is very rich in gold mines, and, once these people are pacified, our settlers say that they will get possession of them and reduce to slavery those people, who had once offered themselves to Your Majesty, and had afterwards rebelled and had killed the Spaniards, and done every mischief. I ordered that those who were captured should be branded with Your Highness's mark, and, after separating the part belonging to Your Majesty, that the rest should be distributed amongst the members of the expedition."[22]

In Rangel's armed expedition against the Zapotecs, Bernal Díaz also took part. The latter did not overmuch relish having again to take the field as he considered himself entitled to rest on his laurels. Moreover, he was not particularly in sympathy with his commanding officer.

"Let us leave this, and I wish to state that at this time one Rodrigo Rangel whom I have often mentioned before (who had not been present at the capture of Mexico, nor at any of the battles which had been fought in New Spain) so that he might gain in some repute, begged Cortés so give him a company to go and conquer the Pueblos of the Zapotecs who were at war...

He refused him that expedition, saying that the Zapotec Indians were a difficult people to conquer on account of the great and lofty mountains where they lived, so that it was impossible to take horses, and that there were always fogs and mists there, and the roads were narrow and slippery and one could not walk along them unless, so to speak, with the feet of those going

[21] "palmos", one palmo is 20 cm. [22] Cortés 1908, vol. 2: 198—199.

Digitized by Google

ahead on a level with the heads of those came behind (this is to be understood in the way I here state it, as it is true, because those who go above and those who come behind, go head to foot) and that it was not a suitable undertaking (for him) to go against them, and if they did go they would have to take soldiers who were very active and strong and experienced in warfare ...

I have already said that there are great mountains in the land inhabited by the Zapotecs and that the natives are very active and lithe people and that with certain calls and whistles which they give all the valleys resound just like echoes.

As we had to take along Rangel we could not hurry and do what we ought to do, and when we reached a pueblo we found it deserted and as the houses were not close together but one on a hill and another in a valley and it was the rainy season and poor Rangel was crying out with pain from his boils, and we all disliked marching in his company, and seeing that it was a waste of time we feared that some disaster might happen, if by chance the Zapotecs should wait for us and face us (for they are active and have long lances, much better than ours, and they are great archers and shoot stones from slings and we could only move along the roads in single file), and as Rangel was worse than when he started he agreed to abandon the black conquest, for black one might call it and return each one to his home."[23]

From the above will be seen that parts of the Zapotec country were still in 1524 maintaining their independence thanks to topographic and climatic obstruction to the Spaniards and to the bravery and effective arms of the defenders. Shortly after having composed his fourth report, cited above, Cortés set off for Honduras with a large force. From this campaign, which brought slender result but heavy losses, he only returned in the summer of 1526. During his long absence — he was believed to have died — those acting as his deputies had dealt roughly with the Indians. Rebellions broke out in various parts of the country, and many Spanish colonists and other fellow-countrymen of theirs lost their lives. The position had reached its most serious development in Oaxaca. Of the punitive expedition sent to that district Bernal Díaz gives the following account:

"At this time there rose in revolt (the people of) certain provinces named the Zapotecs and Mijes, and a pueblo and stronghold where there was a great rock which was called Coatlan, and they sent to it many soldiers who had lately come from Castile, and others who were not Conquistadores, and sent as their Captain the Veedor Chirinos, and expended many golden pesos from His Majesty's property and from what was in his royal Treasury, and they took such great supplies to the camp where they were stationed that all was riot and card playing, and the Indians from the rock sallied forth in the night and fell upon the camp of the Veedor and killed some of his soldiers and wounded many others ... and the Indians were very victorious and Mexico was ready for revolt any day."[24]

Chirino's expedition had not effected any material change in the position in Oaxaca. The importance of forcing a decision was obvious, not only because of the regions not controlled by the Spaniards being of value, but on account of their constituting a menace in regard to neighbouring parts of the country. This state of things is stressed by Cortés in his fifth letter to his sovereign, dated at Tenuxtitlan on Sept. 3rd, 1526:

[23] Díaz del Castillo 1912, vol. 4:343—345. [24] Díaz del Castillo 1916, vol. 5:73.

Digitized by Google

"As Your Majesty has already been informed, I have also sent three companies of men to the province of the Zapotecas to invade it in three different places, so as to complete its reduction in the shortest possible period; this will be of great service, not only because of the mischief which those natives work on the other peaceable ones in the neigbourhood, but also because they occupy the richest mining districts existing in New Spain, from which, when conquered Your Majesty will derive great profit."[25]

The three columns mentioned by Cortés were in 1527 reformed into two expeditions which, one from the north and the other from the south, set forth to attack the rebellious Zapotecs. These were at least partly inhabiting districts that had previously made submission. The northern column was led by one Captain Barrios, while the southern was commanded by Diego de Figueroa. Of this enterprise the following account is given by Bernal Díaz who, true to his wont, is unhampered by any false modesty:

"He also sent to conquer and bring to peace the pueblos of the Zapotecs and Mijes, and they were to go in two divisions so that they (the pueblos) might more easily be brought to peace. (In command of) the division (marching) from the north he sent a Fulano de Barrios, reported to have been a Captain in Italy and very valiant, who had recently come to Mexico from Castile ... and he gave him over one hundred soldiers and among them many musketeers and crossbowmen. When this Captain reached the pueblos of the Zapotecs, which are called the Tiltepeques, the native Indians of those pueblos sallied out one night and fell on the Captain and his soldiers, and so sudden was the attack that they killed Captain Barrios and seven other soldiers and wounded most of the others, and, if they had not all quickly taken to their heels and found refuge in some friendly pueblos, all would have fallen. Here one can see the superiority of old Conquistadores over those recently come from Castile, who know nothing about warfare with Indians nor of their cunning. This put an end to that conquest.

I must tell now about the other Captain who went by way of Oaxaca. He was named Figueroa, a native of Cáceres, and was also reported to have been a very valiant Captain in Castile... He also took with him one hundred soldiers newly arrived in Mexico from Castile, many of them musketeers and crossbowmen, and ten of them even cavalrymen. When they reached the province of the Zapotecs he sent to summon one Alonzo de Herrera, who was stationed in those pueblos as Captain ... on certain disputes taking place ... they came to drawing swords, and Herrera wounded Figueroa and three of his soldiers who came to his assistance.

When Figueroa saw that he was wounded and one of his arms maimed, he did not dare to penetrate into the mountains... He determined to undertake the excavation of the graves in the burial places of the Caciques of those provinces, for he found in them a quantity of golden jewels which it was the custom in olden days to bury with the chieftains of those pueblos, and he attained such dexterity that he took out from them over five thousand pesos de oro, in addition to other jewels obtained from the pueblos. So he determined to abandon the conquest, and he left some of the pueblos in which he stayed more hostile than he found them, and he went to Mexico and thence to Castile, and the soldiers went each his own way...

Thus ended the expeditions... and those pueblos were never pacified until we settlers from Coatzacoalcos conquered them.

As the mountains are so lofty that horses cannot be used, I racked my body on the three occasions that I was present at those conquests, for although we might bring them to peace in

[25] Cortés 1908, vol. 2: 351—352.

Digitized by Google

the summer, as soon as the rains began they again rebelled, and killed such Spaniards as they were able to catch straying. However, as we always followed them up, they were brought into subjection."[26]

But in spite of Bernal Díaz' assertions that the Zapotecs had at last been "brought into subjection", fresh disturbances broke out in 1531, in which many Spaniards were killed. Even Cortés experienced a great deal of trouble when he proceeded to take possession of his marquisate. Colonization of Oaxaca nevertheless made rapid headway, and in 1535 the Pope established the bishopric, designating Antequera (Oaxaca) as the cathedral town.[27] Still, in 1548 there was a rebellion, although soon put down. But only two years later the Zapotecs again took up arms. This time the position was more serious by reason of a rumour having spread that Quetzalcoatl had returned. But in spite of religious fanaticism supporting their love of liberty, the Indians were again conquered.[28]

The historical notes have supplied us with a great deal of interesting information from an ethnographical point of view. But above all they bear witness of the bravery and love of liberty possessed by the Zapotecs. This circumstance, together with the inaccessibility of the country, explains why to this day Oaxaca is the most Indian of the Mexican states. Mexico's greatest statesman, Benito Juárez, who was a full-blooded Zapotec, in 1867 signed the death-warrant of Maximilian, Emperor of Mexico. The latter was a descendant of the Emperor Charles V, whose Captain-General in Mexico ordered the execution of Guatemoc, the last of the Aztec kings. As Longfellow says: "Though the mills of God grind slowly, yet they grind exceedingly small."

MONTE ALBAN

The ruins of the ancient city of Monte Alban are situated on a range of mountains that rises close to, and southwest of, Oaxaca City.[1] Monte Alban, "the white mountain", lies some 400 m higher than the Oaxaca Valley, whose altitude above sea-level is 1,540 m. The former figure applies to the Great Plaza of the ruined city. The whole mountain appears to have been remodelled by the hands of man. The ruins of the largest architectural structures, of platforms and pyramids, are mostly found on the top of the mountain, but even the contours of the hill-sides have been greatly transformed through the building operations of ancient times.

This ruined site, so reminiscent of a mighty fortress, has long been an object of interest to archaeologists. As a stronghold it would never have been of any value, and

[26] Diaz del Castillo 1916, vol. 5: 130—132. [27] Péres 1888: 1—2. [28] Bancroft 1883, vol. 5: 538.

[1] The exact position is 17° 2′ 39″ N., and 96° 46′ 3″ W. (The northern platform of the Great Plaza).

Digitized by Google

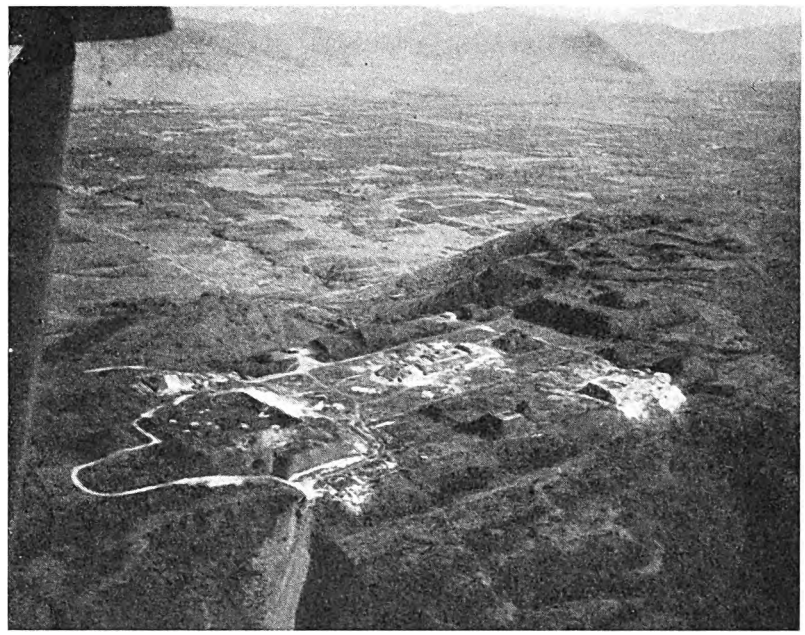


Fig. 5. Air-photograph of Monte Alban from N. W., taken in January, 1933. Courtesy of Professor Alfonso Caso.

the only thing that, strictly speaking, gives it an air of a fortress is its commanding position. An extensive drainage system had been constructed, but no water reservoirs — so indispensable at a siege — whatever are known, but in the dry season all water had to be fetched up from Rio Atoyac at the foot of the mountain. Neither have arms of any kind, such as arrow- or spear-heads, axes or knives, been found in the graves. Probably Monte Alban, like the great majority of the ruined places in Mexico, was a temple city, a sacred area.

More than a century ago Guillelmo Dupaix visited Monte Alban. On that occasion were unearthed part of the peculiar reliefs that are known as "The Dancers". Probably at the same time a grave was excavated in one of the mounds situated in the centre of the principal courtyard. Of this, no particulars appear to have been preserved. In the year 1902 Leopoldo Batres directed his energies upon Monte Alban. Fortunately for the ruins he was not in possession of sufficient resources for working any extensive destruction of a kind similar to the vandalizing of the Sun Pyramid of Teotihuacan that he subsequently perpetrated. Scientifically carried out, systematic excavations were only begun in the winter of 1931—32 under direction of their originator, Professor Alfonso Caso, and these operations have, year by year, been continued during the dry season — i. e. the winter months — ever since. A large number of excavations and works of restorative or preserving character have thereby been carried out, but of still greater value to archaeological research are perhaps the investigations made of the graves. On the work so far done have been published two reports,[2] some essays,[3] and a brief synopsis.[4] It is from these publications that the description which here follows mainly has been compiled.

[2] Caso 1932 and 1935. [3] Caso 1932 a; 1932 b, 1934. [4] Blom 1934: 868—874.

Digitized by Google

On all sides of the principal courtyard — or Great Plaza — measuring 300 by 200 m, are grouped massive platforms from which rise pyramid-shaped structures which once formed the bases of temples that have by now vanished. Also in the centre of the Great Plaza are three terraces which previously only resembled mounds, but through latter years' work of excavation and restoration have now begun to resume their original character of pyramids. The southernmost of these, "Mound J", which was examined in the fifth excavation season, 1935—36, is said to have possibly been an astronomical observatory. Both in construction and orientation exactly in the northeast it differs from the rest of the structures in the Great Plaza which are orientated in one or other of the cardinal points. It is possible that ruins of an observatory are found in the southeastern corner of the large platform that forms the southern border of the Plaza. If Mrs. Nuttall's theory is correct, it was used for determining the culminations of the sun.[5]

The north side of this Plaza is bounded by a very large platform of irregular plan. On this platform are placed small pyramids of various size and height, and a sunken quadratic court having steps in the centre of each of its sides. In the middle of it are the remains of an altar. It is also fitted with drainage arrangements of considerable dimensions. On the spot where the altar is situated, Batres came upon a stela, which Caso in his studies of these monuments denotes as No. 10. Here were then discovered rich offerings consisting of pottery, objects of jadeite, etc., and two animal skeletons, probably of eagle and jaguar. As the Mayas, too, used to deposit offerings beneath their stelae, we have here a definite point of contact with their civilization. It is also interesting to note that, according to a creation myth localized to Teotihuacan, an eagle and a jaguar immolated themselves in the fire that had transformed two gods into the sun and the moon, respectively. Among the offerings may be noted small figures of green stone, coated with stucco and painted red. These figures show complete stylistic agreement with corresponding objects from Teotihuacan. The offerings found underneath Stela 10 thus constitute a directly connecting link between the Mayan and Teotihuacan cultures. At the southeastern edge of the platform a ball-court has been excavated and restored. In construction and planning it conforms to similar courts at Chiapas, that is to say to the earlier of ball-courts.[6] Characteristic of these are, inter alia, that the walls are sloping, that the stone rings are absent, and that a small altar is built up in the centre of the court. In each of the northeastern and southwestern corners is found a niche which probably served the same purpose — that of goal — as the stone rings projecting from the vertical longer sides of the later ball-courts.

On the southern margin of the platform an imposingly dimensioned stairway, leading from the Great Plaza, has been excavated and restored. Having a width of 37.80 m and a height of 12.10 m it is the largest stairway hitherto known from any ancient Mexican building. This stairway has twice been added to, and thus consists of

[5] Nuttall 1932. Cf. Pollock 1936: 64—65. [6] Cf. Blom 1932.

Digitized by Google

Fig. 6. Monte Alban in November, 1931. In the foreground the Northern Platform, behind the Great Plaza. Courtesy of Professor Alfonso Caso.

three stair constructions built one on top of the other. This method of adding to an existing and perfectly serviceable structure was a custom peculiar both to the Mayas and the Aztecs, the people of the Teotihuacan culture, and others. Probably the underlying idea of this, to us, motiveless waste of labour is the same as that which made the Aztecs destroy their household utensils at the close of each of their 52-years cycles, when it was expected that the sun would be extinguished and the whole world come to an end. The side walls of the large stairway are, each, 12 m wide. Its vertical base portion has, like those of many others of the excavated structures, a profile which in some degree conforms to corresponding parts in a number of buildings in Mitla. In the base of the platform, and adjoining the large stairway, have been discovered stone blocks with figures of a kind similar to the long-known "Dancers" on the eastern face of a pyramid in the far southwest portion of the main courtyard. These probably date from a period earlier than that in which the platform was erected, seeing that the blocks decorated with the "Dancers" only served as building material in the construction of the large, northern terrace. Whether they should be referred to an earlier epoch in the history of the Zapotecs, or to a people in prior possession of Monte Alban, still remains to be decided. In the excavation season 1935—36 Caso, however, found similar figures with Zapotecan hieroglyphs, some of them

Digitized by Google

possibly even giving the first complete dates. Providing that the inscriptions are not a later addition, the former hypothesis must be correct. Also in the base of the south platform other "Dancers" carvings were found. The structure at the southwestern corner of the Great Plaza have now been subjected to examination and restoration. The most important result thereby gained was perhaps the discovery of a grave-chamber which represents an intermediary type between the cruciform and those provided with niches. The structure is of remote age, because the material of the interior, earliest platform contains no pottery sherds. Directly above it was found pottery belonging to the second of the five consecutive periods that are definable at Monte Alban.

Since 1931 upward of 100 tombs have been excavated with brilliant results, but undreamt of possibilities as regards new discoveries remain, as Caso holds the opinion that more than ten times that number are waiting to be examined. It may be remembered that the slopes all around Monte Alban no doubt were used as a burial ground. Unfortunately part of the discovered graves had been plundered by treasure-seekers, and it may be supposed that a similar fate has befallen a proportion of the remainder.

In the matter of the positions of the tombs, correspondences with Mitla are numerous and important. Close examination of the area containing the graves that were first examined, as well as of the surroundings of those later examined, has shown that the grave mounds are no isolated structures. They form instead part of an ancient town plan including courtyards, somewhat similar to what is seen in Teotihuacan and Mitla. In the case of the latter, however, the buildings themselves have escaped damage in an exceptional way. This is due to some of them being found at the edges of cemented courts, while others occur below edifices or below the stairways that from the latter lead down to the courts. There seems to exist no general rule as to their orientation in relation to the points of the compass. In many cases they have however been found on the western margins of the courts, thus having their entrance facing east.

The graves are built of stone, and as regards the manner of their construction they may be divided in two main groups: those with flat roofs, and those in which the roof is formed by two rows of up-ended stone slabs which along the longitudinal axis of the grave chamber lean against each other, so as to make the transverse section of the roof this shape $\wedge$. In regard to plan, three main types are distinguishable: a single chamber, two chambers, and cruciform tombs. In some two-chambered tombs both roofing methods are occasionally used. Horizontal roofs occur as a rule only in small tombs and in those of the cruciform type. Larger tombs often have a niche in the wall at the head, as well as one in each of the longer walls. The purpose of these niches is unknown, but on the other hand it appears probable that cruciform graves are a development of those with niches. Entire correspondence exists between these cruciform structures and those in Mitla and its surroundings as regards shape and

Digitized by Google

Fig. 7. The large stairway leading from the Great Plaza to the Northern Platform. Monte Alban.

mode of construction. The magnificent stone mosaic ornamentation of the Mitla graves is, however, here absent, by reason of which the Monte Alban graves of this type may be supposed to belong to an earlier period.

A truly sensational discovery was made in the course of the examination of graves during the first excavation season, in January, 1932.[7] Then Tomb 7 was found to contain treasure of such magnitude that it may safely be described as the most valuable find, even at a money value, ever made by archaeologists in America. From an artistic point of view these grave offerings attain an exceedingly high level, and they also bear witness of a craftsmanship that made light of working up the different kinds of hard rock as well as metals.

This tomb, in the usual manner built of stone, consisted of two chambers, one behind the other, and a small antechamber. The first of these chambers had a flat roof,

[7] In this connection it should be mentioned that certain Mexican "archaeologists", whose competence seems to be unknown to anybody except themselves, with an ardour altogether of the character of personal animosity, have most emphatically claimed that the treasures of Tomb 7 are nothing but fakes. This regrettable business falls to the ground through the absurdity and ridiculousness of the arguments adduced. Fortunately there have been published, among others, pronouncements by present-time leading experts on Mexican antiquities, who are unanimous in emphasizing the outstanding value of the finds in question. (Opiniones de distinguidas personas que vieron la exposicion de las joyas de Monte Alban en los Estados Unidos de America. Boletín del Museo Nacional de Arqueología, Historia y Etnografía, Entrega I, Tomo I, Epoca 6 a, Mexico 1934).

Digitized by Google

while the second had a Λ-shaped one consisting of two rows of stone slabs set on edge and leaning on each other. In the antechamber were found three great Zapotec urns, intentionally broken. The middle one represented an old man, presumably the god of fire, whom the Aztecs called Ueueteotl, "the Old God". The other two were representations of the Zapotec god known as Cocijo, who is equivalent to the Rain God, called Tlaloc by the Aztecs. In the grave chambers a large quantity of objects were found, the catalogue of which comprises above 500 items. Among these may be noted necklaces, rings, bracelets, ear-plugs, and other ornaments of gold, silver, copper, jade, obsidian, turquoise, coral and pearls, as well as vessels of rock-crystal, tecali ("Puebla marble") and silver. Even beads of jet and amber are said to occur, in such case being the first known from any Mexican grave. To the above may be added works in mosaic. In cases where such were mounted on wood, or other perishable material, they have naturally fallen to pieces, with the exception of a skull which is entirely covered with turquoise mosaic, a macabre trophy, although at the same time an exquisitely beautiful one. The mosaic was affixed with a paste made principally of copal, which otherwise constituted the most common incense material in ancient Mexico, and is still used as such. Among the golden objects the most remarkable is a gold crown adorned by a plume of the same material, a large number of very fine pendants, and a mask representing the god Xipe Totec. Although this god, as will be explained below, is stated to originate from Oaxaca, no image of him has ever before been discovered in that state.

Exceedingly interesting are long and narrow bone plates covered with incised, or rather carved, figures. They are executed with a sureness of form which is admirable, and the motives are obtained from the calendar. There was also recovered a small comb, made of bone and beautifully ornamented. They are probably made from bones of jaguar or deer. Some of the bone objects are pointed, and were probably used for a ritual purpose in puncturing various parts of the human body in order to draw blood for sacrificing to the gods. The purpose served by the carved bones, more than 30 in number, is unknown. The carved hieroglyphs are purely Mixtecan, and in no way whatever found in Zapotec writing. From a purely scientific point of view they are perhaps the most important of all the valuable contents of Tomb 7, as in all probability they will in time throw new light on the writings, mythology and history of the Mixtecs.

In the season 1935—36 a painted tripod vessel of Mixtecan type was recovered in a shallow crypt. It contained four copper chisels, a scraper of shell and some pieces of bone worked in the same style as those found in Tomb 7. This was probably the grave of a Mixtec bone-carver, interred with his tools.

The knowledge of the whereabouts of the ancient jade quarries has been lost, and in its raw form it is nowadays only found in small pieces in the rivers. As however the Aztecs, besides gold, took tribute in jade from the regions now covered by the states of Oaxaca and Guerrero, it may be supposed that jade deposits exist in this

Digitized by Google

part of Mexico. Assertions have been made, it is true, that this material — so popular with the peoples of ancient Mexico, and by them valued above gold — had an Asiatic origin, but this view has of course not met with acceptance. It is also stated that the American jade is chemically different from its Chinese counterpart. As according to the Aztecs' tribute books, several localities in the above-mentioned states were obliged to pay their tribute in the form of turquoise, it must be supposed that even this mineral occurred in those, or possibly adjoining, parts of the country. If so, it would constitute a more satisfactory explanation of the abundance of turquoise at Monte Alban than importation from New Mexico, the existence of which has been asserted.

In association with the treasure were found skeletal remains of nine people. These remains were so irregularly disposed — a great proportion of the bones were besides missing — that secondary burial must have taken place. The latter burial method obtained side by side with direct burial in the case of the rest of the Monte Alban graves. It is possible that the occupants of the graves had been priests, by reason of no weapons being found with them. But the same was the case with the rest of the graves, not only here, but also down in the valley, as the tombs examined in the closing years of the 19th century by Saville, among others those at Xoco. Tomb 7 was, as clearly established at its excavation, originally used by Zapotecs. But their dead were subsequently made to leave room for others, viz. those nine with the beautiful offerings, which largely can be proved to be of Mixtec origin.

The golden objects have undoubtedly in part emanated from a Mixtecan goldsmith's workshop, and the calendar signs were copied from Mixtecan script. The second time Tomb 7 was used would appear to have been approximately coincident with the conquest of Mexico. This may be inferred from Caso's, inter alia, pointing out that in a codex from the 16th century is found a representation of Indians in Tepetlaztoc handing over to the Spaniards a necklace consisting of small golden tortoises, the exact counterpart of one found in the grave in question.

In a recently published work Lothrop has adduced most weighty evidence that South America in every respect held a leading position as regards metal-working technique. On this point he has gone much farther than, e. g., Rivet and Nordenskiöld, and, on what appears to be good evidence, established that direct importation took place from South America to Central America and even Mexico. Thus he is of the opinion that "among the treasure discovered by Professor Caso at Monte Alban are two objects of Peruvian manufacture. One of these is a gold crown accompanied by a long plume of gold to be inserted in it".[8] He emphasizes, armed with many examples, that "metal crowns or head-bands are known from Argentina to Coclé in Panamá, but, except for the Monte Alban specimen, they have not been found in Central America or Mexico . . . As things now stand, the Monte Alban plume is the only example found north of Ecuador and the design includes rows of dots which are characteristic of Late Chimu style". According to his chronology, the Chimu culture

[8] Lothrop 1936: 72.

Digitized by Google

begins just after A. D. 900 and continues down to the Spanish conquest. "Its presence in Oaxaca can only be explained as the result of trade". The second object, which is also isolated in Mexico, but has many counterparts in Peru, is of copper. "In Peru these objects occur on the north coast, and date from the Late Chimu period". Lothrop not only being one of the leading Americanists of our days but, also, unlike the majority, not narrowly specialized — the scope of his investigations covering extensive parts of South America, the whole of Central America, and the Maya region — the very greatest importance must be attached to his statements.

The remainder of the tombs did not yield up finds of a material value comparable with the above, but on the other hand some which are extremely important from a scientific point of view. Among these are sepulchral urns, incense-burners, various kinds of clay vessels, bone needles, ornamental objects of jade and shell, etc. It is worthy of note that in the examination of graves carried out by Saville, which will be described farther on, down on the plain at Xoxo and other places, effigy urns were never found inside the tombs. At Monte Alban they occurred in a number of grave chambers. In Tomb 40, for example, according to illustrations published, were placed two rows of identical urns, 3 in one and 2 in the other, with their backs towards the longer walls of the chamber. Between these rows the entombed had been placed. It is also noteworthy that some of the urns were deposited in the tombs in a broken state. Among the objects here recovered may be noted some large-dimensioned earthenware pipes or tubes of a type similar to that of those found by Saville at Xoxo. Some of the clay vessels still contained remains of the food that had been deposited at the funeral. Among them were bones of birds and of some mammal, probably a very small breed of dog. Most of the incense-burners contained charcoal and ashes, proving that they had been deposited in the tombs immediately after having been used, or that they had been lighted in situ. Greatly interesting is Caso's expressed opinion that the Monte Alban effigy urns are older than those of the graves at Xoxo, Zaachila, Cuilapan, and other localities in the valley. In Tomb 33 a girl of 9 had been buried. With her had been deposited toys, among other things a small and broken clay figure representing a child. This figurine, and other objects here found, exhibit considerably greater unconventionality in their shaping than do the hieratic figures of the classical Zapotec period. Possibly this divergence as to style may also be due to the objects having belonged to a child. As however this tomb was found at a depth of nearly 5 m, a depth unusual at Monte Alban, Caso thinks it probable that the grave is older than the rest, and dating from the same period as "the Dancers".

Another tomb of very great importance is No. 58. Within the entrance of the grave chamber was placed a large incense-burner in the form of a figure representing the god Xipe Totec. In point of style it is considerably more primitive than the representations of the god in the codices, or as he appears in finds from other localities, e. g.,

Digitized by Google

the large figure from Coatlinchan in the neighbourhood of Texcoco,[9] or that from Xolalpan at Teotihuacan.[10] The gold mask from Tomb 7 shows a later Xipe which stylistically conforms to the Codex figures. The head of the figure from Tomb 58, on the other hand, closely corresponds with those small clay heads from Teotihuacan which are known as "the masked god", and were by Seler long ago supposed to be Xipe representations.[11] Here it therefore appears that Seler's theory has been confirmed. The occurrence of this primitive representation of Xipe at Monte Alban agrees with Sahagun's statement that his informants in the Valley of Mexico told him that the home of Xipe was Oaxaca. It is also noteworthy that Tomb 58 refers to one of the latest periods at Monte Alban, which is apparent from the rest of the ceramics.

In some cases the grave chambers were ornamented with hieroglyphs of Zapotecan type, that is to say of the same kind as those on the stone monuments, painted on the stucco-coated walls. In Grave 72 the hieroglyphs numbered 6, and represented a corresponding number of days in the tonalamatl. They showed however no sign of the prescriptive sequence of the days in this period of time, and may therefore be supposed to represent either names of individuals, or days without any definite mutual connection.

On hills outside the central area of Monte Alban considerable quantities of pottery fragments of the polychrome Mixtecan type have been recovered. This type of ceramics is, on the other hand, not found in the Great Plaza or adjoining structures. On these hills were during the excavation season 1934—35 discovered eight graves. Part of them contained ceramics of the type found within the Mixtec area and depicted in codices referring to this people. The graves in question thus date from the period next following upon the latest Zapotecan period, when the Mixtecs were in occupation both of Monte Alban and certain places in the valley, such as Cuilapan, Xoxo, and Nazareno. These localities had by then been evacuated by the Zapotecs. At least in one case it appeared evident that the Mixtecs had been guilty of grave-plundering.

Another of the graves here found dates from the last Zapotecan period, but at the same time it exhibits considerable Mixtecan influence while some are, on the other hand, definitely Zapotecan in their character. One of these, No. 77, is, next after No. 7, the one that has yielded the richest and most important finds. Foremost among these is an effigy urn which Caso considers as being the most beautiful known from the Zapotecs. It consists of a cylinder, the rear portion of which expands and rises above the front part, and an exceedingly beautiful and naturalistically formed human face. Its height is 83 cm, and the face is of natural size, with its upper part painted red, its lower, black. The ear-plugs are blue, and the broad collar decorated in various colours. Like a big helmet, the head of an owl surmounts the figure, its stylized wings drooping down on either side of the face. The bird's head is decorated

[9] Saville 1897: pl. 23. [10] Linné 1934: fig. 113. [11] Seler 1915: 462.

Digitized by Google

in red, yellow and blue and has ear-ornaments of turquoise. The painting is throughout executed in fresco technique. Although the figure from a general stylistic point of view shows strong points of contact with the human representations in Mayan sculpture from the era of the so-called "Old Empire", it is at the same time purely Zapotecan. Its strikingly realistic modelling emphasizes the Zapotecan racial type, and both execution and decoration are similarly typical. Among other objects may be noted a fusiform pottery stand with fresco ornamentation in red, yellow and blue, two rather flat-bottomed bowls with faintly curving sides and provided with massive ball feet, and three effigy vases. Of the latter, two are provided with an eagle mask, while the third is a small representation of Cocijo, the Rain God. Although the grave is of a purely Zapotecan character and dates from the second period, it nevertheless shows strong points of contact with the Mayan culture, and, possibly — cf. the pottery stand and the bowls with ball feet — with Central America. Tomb 77 is, as we see, of extreme importance in regard to the chronology of Monte Alban, as well as providing material for investigations into its connections with other civilizations in Mexico and Central America.

In the course of research work carried out in the excavation season 1935—36, the results of which have not yet been published, many extremely interesting archaeological finds were made. Among them is a vase of Teotihuacan manufacture, recovered from a grave. This might almost have been expected, seeing that already earlier discoveries, mentioned in the foregoing, bear witness of the intimate connections in that direction. One grave contained several Zapotecan polychrome vessels. In case the paint was applied before firing, these vessels should be unique. There was further discovered a large cruciform grave chamber resembling those of Mitla. Near it was found the first authenticated piece of Totonac sculpture from the Zapotec area.[12] Of last season's excavation results nothing has been published up to the time of this work being sent to the press. Judging by notices that have appeared in Mexican newspapers it would seem that work has mainly been centred upon the Mixtec area, but also carried out on Monte Alban, where there have been opened further tombs with good results, cf. p. 167—168.

Among the results so far achieved at Monte Alban, the most important of all — from a scientific point of view — is that Professor Caso has been able to define five consecutive, separate periods. His conclusions are mainly based on the ceramics recovered. An account of this will be given below, on p. 93.

[12] Particulars referring to the season 1935—36 are taken from "Notes and News" in "American Antiquity", Vol. 2, No. 2, 1936, pp. 153—154 and Vol. 2, No. 3, 1937, pp. 228—229.

Digitized by Google

MITLA

Notwithstanding its remote — and still to some extent inaccessible — position, Mitla is one of the best known of the numerous Mexican ruin cities. This is because its buildings are the best preserved in Mexico, with the possible exception of some that are found in Yucatan. Mitla is situated at a distance of nearly 50 km from the town of Oaxaca in an almost due easterly direction, on an arid and stony plain in the heart of the otherwise fertile Tlacolula valley.[1] On all sides except towards the west the place is surrounded by high mountain ranges, which lend peculiar charm to the landscape. Through the ruined site, which slopes gently to the south, there runs a small brook with its source in the eastern mountain. In the dry season it carries but little water, and probably the site was determined by the river, because this constitutes the lower limit of the water supply during that part of the year.

The Mexicans called the place Mitla, or Mictlan, "the place of the dead", and the same meaning attaches to its Zapotecan name, Yoo-paa, or Lioo-baa, presumably alluding to the burial vaults that are found below one of the groups of ruined buildings.[2] It is possible that mythological conceptions gave rise to these graves. The Aztecs believed that the cradle of their race was situated at Chicomoztoc, "the site of the seven caves", a notion which for certain reasons appears to date even farther back. The Zapotecs possessed a similar belief as to their ancestors having sprung from underneath the ground, and thence having, by way of deep caverns, ascended to the earth's surface. From this it was an obvious conclusion that their descendants should return to those regions by being, as a preliminary step, interred in the portals of the ancient home. It is extremely probable that the grave chambers, which are of such frequent occurrence in the Zapotec country have been developed from earlier burial places in natural caves. In Mixteca Alta graves have been found within well-like chambers hewn out of the soft bedrock.[3] Typologically, these are derivable from natural caves.

According to ancient authorities, Mitla was ruled from Zaachila, or Teozapotlán, the capital of the Zapotec kingdom. It was then a culture centre common to the inhabitants of all the neighbouring valleys and communities. Unfortunately the history of the Zapotecs is very little known. The earliest information regarding Mitla is found in the post-Columbian Codex Telleriano-Remensis, where it is laconically stated that in 1494 the place was conquered by the Mexicans. The only early statement as to the age of Mitla, Lehmann asserts that he has found in Canseco's report of 1580 to Philip II of Spain. In this he says that according to common report, the building had existed more than 800 years.[4] The value of numerical data of this kind, merely founded on a tradition that must be supposed as mainly oral, can however not be very great.

[1] The exact position of Mitla, or San Pablo Mitla as its full name runs, is 16° 51′ 22″ N., and 96° 23′ 53″ W. Its altitude above sea-level is 1.650 m. [2] Seler 1895: 5. [3] Guzman 1934: 24 seq.

[4] Lehmann 1933: 97 (Santamaria y Canseco, "Papeles de Nueva España, Relacion de Mitla", etc.).

Digitized by Google

Of more interest is the following statement by Sahagun referring to Quetzalcoatl's flight from Tula to Tlapallan subsequently to misfortunes having crowded upon Tula. He must have fled at a pretty leisurely rate, seeing that he had time to occupy himself with quite a number of things en route: "an einer andern Stelle errichtete er ein Haus in der Erde, an einer Stelle, die man Mictlan nennt".[5] That the god was given worship at Mitla is clearly evident from the frescoes, found in one of the buildings, that have been copied by Seler and are described below. Quite striking, however, is the style of these frescoes, entirely divergent as it is from the severely geometrical stone mosaic peculiar to the Mitla buildings. This is probably ascribable to their having come into being at a much later date than those buildings, but on the other hand they ought to refer to the period prior to the Aztec conquest during which Mixtecan influence was strong. This can be inferred from the circumstance that the hieroglyph that in the frescoes is used to denote years, the year sign, is Mixtecan, not Aztecan. The problem before us thereby becomes more complicated, as so often is the case in the study of ancient history of America.

The earliest information of the Mitla ruins is given by Motolinía, who mentions that Father Martín de Valencia passed that way in the year 1537, or thereabout:

". . . Entonces pasaron por un pueblo que se dice Mietlan, que en esta lengua quiere decir *infierno,* adonde hallaron algunos edificios más de ver que en parte ninguna de la Nueva España, entre los cuales había un templo del demonio y aposento de sus ministros, muy de ver, en especial una sala como de artesones. La obra era de piedra, hecha con muchos lazos y labores; había muchas portadas, cada una de tres piedras grandes, dos a los lados y una por encima, las cuales eran muy gruesas y muy anchas; había en aquellos aposentos otra sala, que tenía unos pilares redondos, cada uno de una sola pieza, tan gruesos, que dos hombres abrazados con un pilar apenas se tocaban las puntas de los dedos; serían de cinco brazas de alto . . ."[6]

Other chroniclers, such as Torquemada and Mendieta, appear mainly to have derived their information from Motolinía. Burgoa is the first to give a description of the ruins. The work of this author is unfortunately extremely rare, and I have myself never had any opportunity of studying it. His notes seem to be partly correct, and partly erroneous. Among other things he states that the cruciform chamber, found underneath one of the buildings, is of immense, quite fantastic dimensions. This shows that the early writers, to whose pronouncements investigators frequently attached an infallibilty resembling that formerly accredited to Holy Scripture, should be accepted with discriminating criticism.

During the colonial era the buildings served practical purposes, as is evident from the fact that European architectural constructions, now removed, were still to be seen there even as late as the close of last century. At the same time the buildings were found to be handy as stone quarries, and one group of houses were partly demolished in order to provide material for a church built on the spot. In what remains of those buildings the famous frescoes are found. The court that is adorned with these paintings was even at the beginning of the 20th century used as a stable.

[5] Sahagun 1927 : 291. [6] Motolinía 1914 : 173.

Digitized by Google

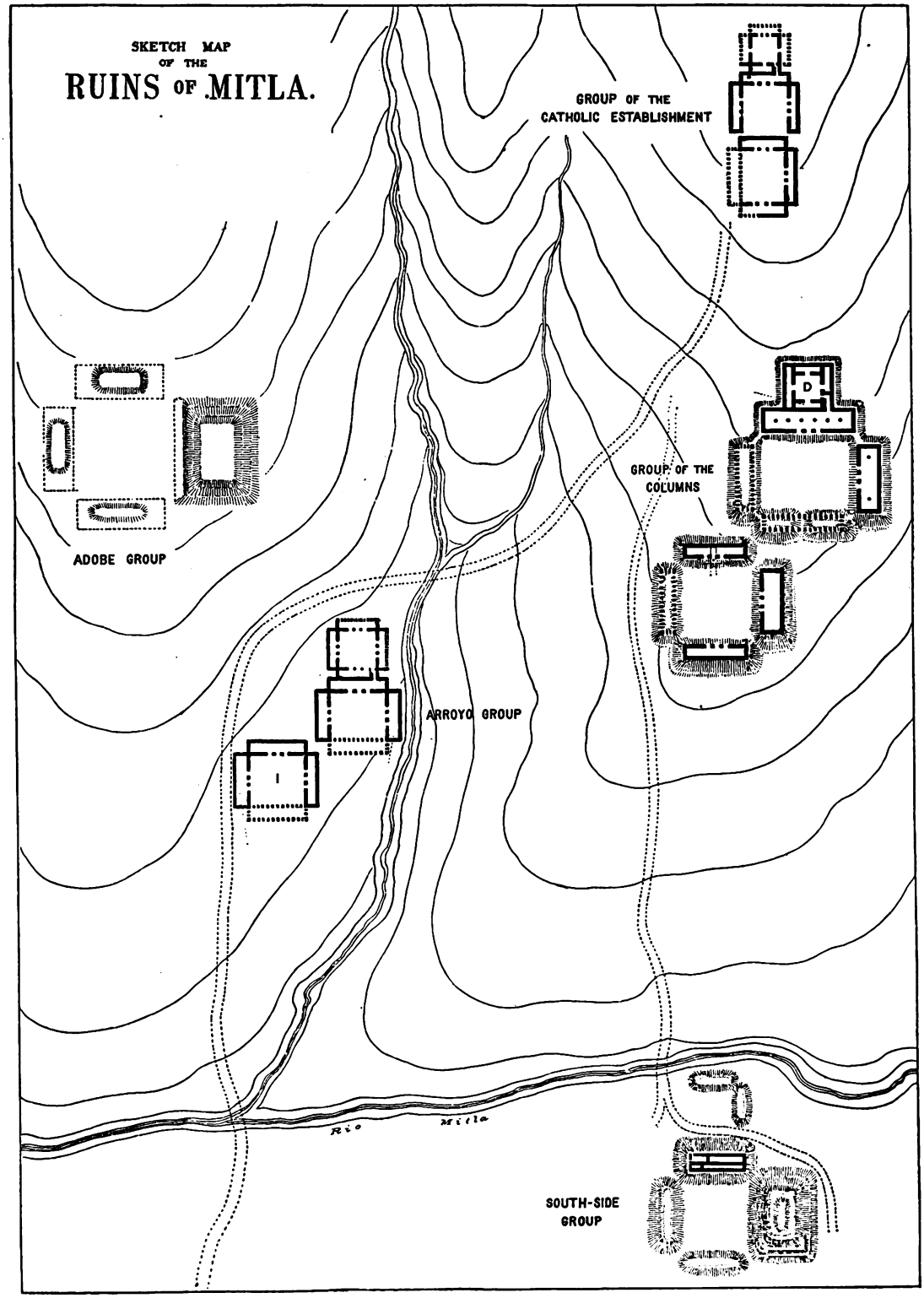


Fig. 8. Sketch map of the ruins of Mitla. Scale 9: 25.000. After Holmes, 1897.

Digitized by Google

The exploration of Mitla was begun as early as 1802. But it was only in the closing years of the 19th century that there was begun systematic excavation work, which was far from completed when it came to a standstill after the turn of the century. It is true that, ordered by the authorities, certain important works of restoration have been carried out at various periods, viz. in 1908, 1921 and 1925, but Mitla is still awaiting its final excavation, restoration, and examination. Even as late as 1921 the building group by the church was blocked up by modern utility structures, door-ways were closed up, and hideous walls and roofs had been added for the housing of the priest and his domestic cattle.[7]

In 1934 and 1935 were carried out a series of researches, account of which will be given below.

From the earlier half of the 19th century and up to our days quite a number of works, great and small, have been published on Mitla.[8] They are of varying value, and frequently ideas and opinions are directly inherited by one writer from a previous one. Two earlier works tower high above the rest: Seler's analysis of the fresco paintings, with extremely important material regarding Zapotec civilization, and Holmes' descriptive work on the ruins. In spite of the fact that he carried out his researches as early as 1895, his study, with plans, sections, and drawings of details, is still the most detailed in existence, and one which, in spite of later works, remains unsurpassed and always has to be consulted.

No especially notable publications on Mitla have, so far as I know, in recent times seen the light of day, excepting Caso's preliminary notices. In his book, "From the pyramid cities of ancient Mexico", Lehmann devotes a chapter to the place,[9] and Beals has attempted by the help of pottery studies to refer the buildings to two entirely different periods of time.[10]

The buildings at Mitla consist of so-called palaces, and in addition there is a fort, or a fortified hill-top, west of the ruined site. The palaces are grouped in complexes, four of which are situated north of the river, and one on its southern side. Their general character, and how they are placed in relation to each other, will be apparent from the plan, fig. 8. Worthy of note is their exact orientation to north and south (or east and west?). Fortunately the buildings have been left practically untouched by earthquakes, in spite of the frequent occurrence of the latter in Oaxaca.

The leading architectonic idea in Mitla was to lay out rows of buildings on all sides of rectangular courts. The buildings were frequently erected on platforms of various height. The courts are cemented, and provided with drainage arrangements.

[7] García Vega 1928: 137.

[8] The most important are: Dupaix 1831, Mayer 1856, Tempsky 1858, Doutrelaine 1867, Bancroft 1875, vol. 4: 388 seq. (with very good bibliographical notes), Aymé 1882, Bandelier 1884, Ober 1884, Charnay 1863, 1885, 1887, Starr 1894, Seler 1895, Holmes 1897, Corner 1890, Saville 1900 and 1909, León 1901, Rickards 1910, Joyce 1914, Adán 1927, Marquina 1928, García Vega 1928, Caso 1927 a, 1935, Caso y Rubin de la Borbolla 1936.

[9] Lehmann 1933: 93—108. [10] Beals 1934: 89—93.

Digitized by Google

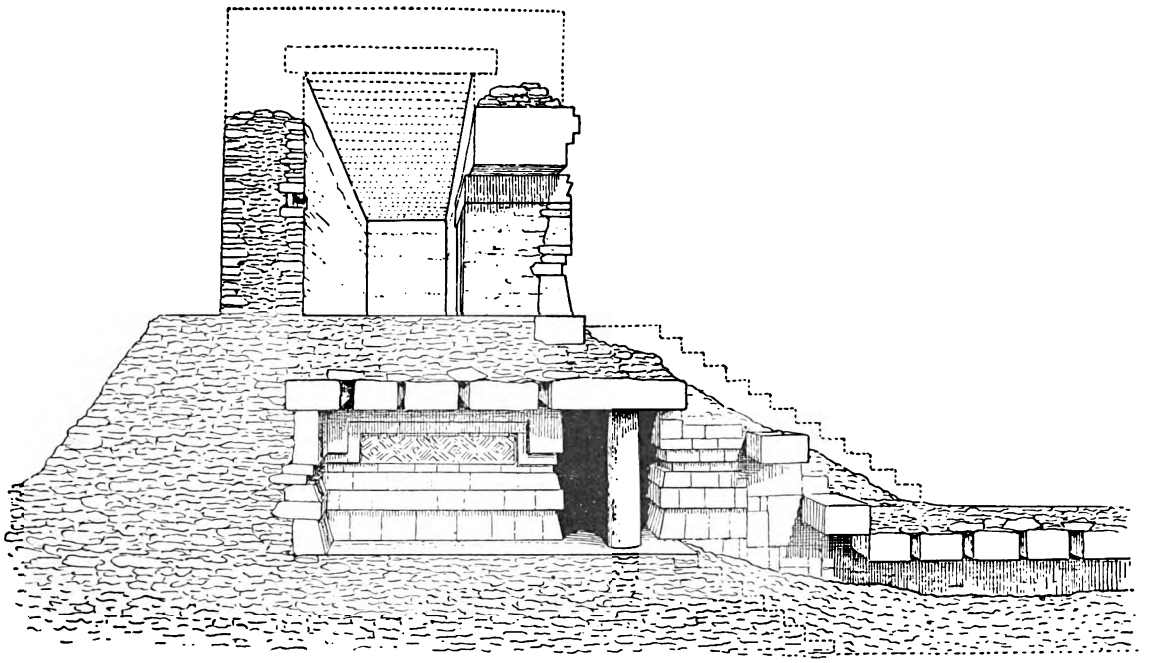


Fig. 9. Section of the northern building with the cruciform grave-chamber, Group of the Columns, southern quadrangle, Mitla. Scale 9: 1.000. After Holmes, 1897.

From the courtyards broad staircases lead up to the buildings, which usually have three entrances in the centre of the façade. There are, on the other hand, no entrances on the outer sides.

The northernmost group, the one that has been partly demolished by the church built into it, consists of three complexes with their north-to-south axes coinciding. It is generally known as the "Group of the Catholic Establishment". The appellations here used are identical with those used by Holmes. South of this is found the most important of the constructions, the "Group of the Columns". Its main court measures ca. 40×50 m. Its name is derived from the northern group of buildings, of which the part adjoining the courtyard consists of a rectangular hall, about 37 m long, 5 m high and 7 m wide, the now non-existent flat roof of which was supported by six monolithic columns. According to calculations made by Corner, they weigh "about four ton each, or one-third more if that proportion of the pillar is in the ground". North of this hall there is added to it a smaller building, likewise consisting of four rectangular rooms grouped about a small court. This annexe can only be reached by means of a narrow passage from the northeastern portion of the hall. These rooms, in particular the western one, present not only the best preserved, but also from an aesthetic point of view the most exquisite examples of the stone mosaic decoration characteristic of the Mitla ruins.

Quite close to this complex there is another group of buildings, similarly consisting of four rows of houses surrounding an almost square court. Even here the northerly building is more important than the rest. For it may be noted that in its platform is found a cruciform crypt, the walls of which are as richly profiled as the

Digitized by Google

façades of the palaces, and, like the latter, decorated with geometrical patterns. At the point where the arms of the cross intersect there is a round stone pillar supporting the roof, cf. fig. 9. A similar arrangement is also found in the eastern row. In this tomb Caso has found fresco paintings of a character resembling that of those described below.[11] Both are stated to have been partly hewn out in the rock. Tombs of this type are also known from other localities, of which account will be given below.

Right on the edge of a small brook, which runs in an almost north-to-south direction and joins Rio Mitla, stands a block of buildings which, with especial reference to its situation, is known as the "Arroyo Group". In the main its plan, as also the dimensions of the rows of its houses, corresponds to that of the "Group of the Catholic Establishment". As will be apparent from the sketch map, fig. 8, its southerly quarter is detached from the rest with a lateral displacement. On the other hand, just as is the case with the above-mentioned group and the "Group of the Columns", the northern court is only accessible by means of a narrow passage leading from the northern hall of the central court. Unfortunately the greater part of this structure has been removed in order to serve as building material. It is noteworthy that the lintels were originally provided with paintings of the same style as those of the "Group of the Catholic Establishment". These extremely interesting paintings have been subjected to detailed analysis by Seler.[12] Here the brush has been wielded by the hand of a master, who beyond any doubt whatever was a Mixtec, seeing that, stylistically, these paintings are alien to Mitla. The ground consists of whitish-grey paint, thickly laid on and well smoothed down. The contours of the figures are drawn in dark-red, with the intervening fields thereupon wholly painted in red, so that the figures stand out in the ground colour against a red background.

Farthest west is situated the "Adobe Group". Its most characteristic feature is indicated by its name, there being not much more to be said about its architecture. The only things remaining are parts of the platforms, or pyramids, that supported the buildings. The building material consists of adobe, sun-baked bricks, but it is not altogether impossible that originally they were faced with stone, and decorated with stone mosaics like the rest of the buildings. The biggest of the mounds, which is about 10 m high, shows traces of having been built in steps, and it is possible that its fellows also had a similar appearance. Surmounting this mound has been erected a small chapel building which can hardly be taxed with adorning the spot. Regarding the building material Holmes says: "the adobe bricks used are about 15 inches long, 6 inches wide and 2 1/2 inches thick, and are heavily bedded in a matrix of coarse adobe. The base of the mound is composed partly of stones irregularly imbedded in adobe soil, as in other examples".[13] It should be mentioned that in Monte Alban very little use had been made of adobe as building material.

As will be seen from the plan, fig. 8, the "South-side Group" is situated on the southern bank of Rio Mitla, almost due south of the Group of the Catholic Estab-

[11] Caso 1927 a: 243—247. [12] Seler 1895. [13] Holmes 1897: 273.

Digitized by Google

lishment and the Group of the Columns. Very little is left of these structures, but, judging by the mounds that form the remains of the platforms, it is possible that they were planned in co-ordination with the Adobe Group. Of the northernmost structures of the ruins, those lying next to the river, only exceedingly scanty remains are found, parts of which have in latter years been worn away by the river. Similarly to the Adobe Group, there is on the east side of the main group a stepped pyramid of large dimensions. Its height is nearly 10 m, and its base measures 30 by 40 m. Regarding the construction of the pyramid, Holmes gives some interesting information. He writes:

"This massive pile is composed of stones of various sizes and shapes imbedded in adobe, as in many of the north side structures, but we cannot at present say whether the facings were of stone or cement. The most noteworthy feature of this pyramid is the cement or concrete floors of the terraces, which are so firm and thick as to stand out in places far beyond the crumbling slopes... At the base is a large slab of this flooring, some 7 feet long and 4 feet wide, which has fallen from above and remains intact and firm as a slab of stone. It is 7 inches thick, and is composed of coarse, gravelly concrete, surfaced with finer mixtures... The floors have frequently been repaired by adding thin coats of cement, and after each application the surface has been painted red and polished."[14]

The rest of the structures are built of stones and earth, but only the northern one retains the cement floor and parts of the walls of the building itself.

Of very great interest is "The fort", or, more correctly, the fortified hill. It stands some 1500 m due west of the ruined city, on an isolated hill-top. Its slopes are very steep, those in the northwest and west being precipitous, and it is only from the southeast that the top can be reached without too much difficulty. Its height is somewhere near 200 m. The plateau at the summit is surrounded by broad, well-built walls of undressed stones. As they conform to the shape of the mountain, they are irregular both vertically and laterally. In the south and southeast they are highest and most massive, being 5—8 m high, and 2—3 m thick. With a view to making an assault still more difficult, the walls are at this point doubled. Unwelcome visitors would then first have to force the outer entrance and then, exposed to the arms of the defenders, to make their way along the long and narrow passage between the walls to the entrance through the inner wall. Similar systems of fortification were often used in the Old World, but this seems to be the only example of this class hitherto known in Mexico. Inside the wall are found the ruins of two groups of buildings disposed around rectangular courtyards. The building material consisted of adobe. That this place should have served as a permanent fort is not very probable. More likely it provided for the population of the valley a place of refuge against some occasional invader.

Characteristic of the Mitla buildings is their decoration, which possesses no exact counterpart in Mexico proper outside a restricted area surrounding this place. "At Mitla and there alone do we find a correct appreciation of the true purpose of decorative art which is to decorate construction and not to construct decoration."[15] This

[14] Holmes 1897: 274—275. [15] Gordon 1905: 163.

Digitized by Google

type of decorations are not only found in the Group of the Catholic Establishment and in the Group of the Columns, but undoubtedly also occurred in other buildings. Thus, detached stones of this type have, inter alia, been recovered among the débris of the Arroyo Group. Both portions of the façades and the inner walls of the ruin are in this way ornamented with mosaic panels, that is to say geometrical patterns made by the fitting together of small stones of different sizes. Some of these stones protrude whole beyond the rest, while others have their protruding portion carved in patterns or steps, and in this manner designs are formed, figs. 10—11.

By this seemingly simple method a characteristic ornamentation has been produced, one which is exceedingly effective, and has been varied in an untold number of ways. A la Greque ornaments, zigzag patterns, and stairway-resembling figures are the most commonly occurring motives. The stones are cut into shape with the greatest exactitude, and it appears as if the aim of the craftsman had been to make the joints invisible, or as little visible as possible. In one room alone, a room off the courtyard in the northward-extending annexe of the pillared hall in the Group of the Columns, 15,000 mosaic stones have been used in its decoration. Holmes has computed the decoration of the rooms and the outer walls to have involved 81,800 stones. If the hall be included, the number would reach 100,000. For all the buildings that are in this way decorated he estimates that somewhere near a million stones must have been used.[16] The beautiful and unerringly composed effect of the designs as regards light and shade is ever changing with the position of the sun. It is possible that this style of decoration has been inspired by textile ornaments. Looked at from a purely technical point of view, in the matter of the cutting into shape of the individual stones and their fitting together into designs, these mosaic panels are not to be equalled.

An immense amount of labour must have been expended on the decoration of the buildings, but the available supply of suitable material must also have played an important part. Holmes, it may be mentioned, says:

"The trachytes that surround Mitla break down in great blocks along the cliffs and are the most tractable and easily manipulated of the building stones . . . Mitla is what it is largely because of the presence of inexhaustible supplies of superb and easily worked building stone — the soft, massive, yet tough and durable, trachytes."[17]

The comparative ease with which the building material, a variety of volcanic lava, could be worked occasionally resulted in individual blocks being given mighty dimensions. There are, for example, lintels that weigh 10-15 tons each, and, according to Corner, even upwards of 23 tons.[18] Holmes also gives a very interesting detailed description of the technical methods employed by the ancient stone-cutters in the shaping of the blocks, their detaching from the rock in the quarry, their transportation to the building site, the tools employed, etc.[19] The principal building material is stone and adobe, but wood must also have been prominently used. The roofs

[16] Holmes 1897 : 264. [17] Holmes 1897 : 229. [18] Corner 1899 : 41. [19] Holmes 1897 : 279—287.

Digitized by Google

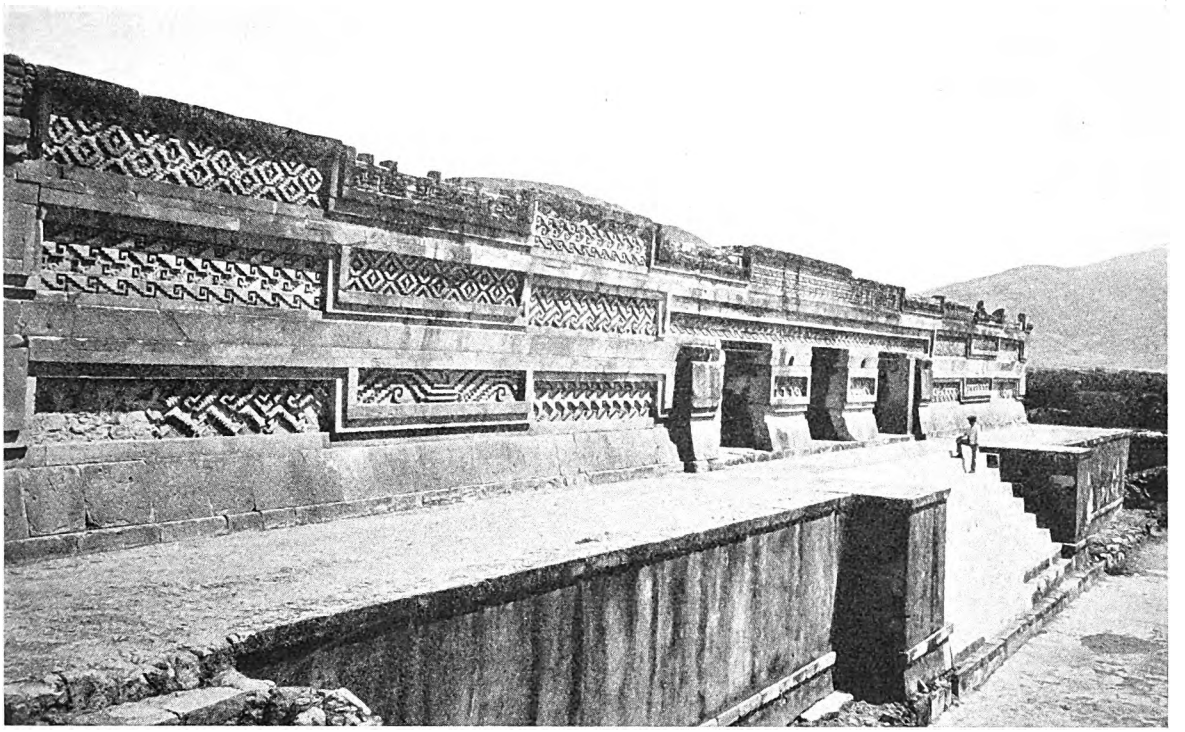


Fig. 10. Façade of the Hall with the Six Columns, Group of the Columns, Mitla.

were flat, and Holmes found the end sockets of ceiling beams.[20] On the basis of his observations, among other things the intervals between the end sockets, he arrived at the conclusion that 1,500 beams must have been required for the roofs of the buildings that are still remaining in a more or less dilapidated state. The felling and finishing of such a quantity of timber with no other tools than simple stone axes must have entailed an immense amount of labour.

As already mentioned, there are cruciform tombs underneath two of the buildings in the southern complex of the Group of the Columns. The walls of these chambers are partly ornamented with stone mosaic. In the surroundings of Mitla have been found cruciform structures with richly decorated inner walls.[21] Stylistically, this decoration is in complete agreement with that of the Mitla buildings. The mosaic technique has, however, in most cases been substituted by designs directly carved in the walls, as is also the case with sections of the grave-chambers found in Mitla. The cruciform structures in question occur in mounds, and are roofed with flat stone slabs. The one most frequently depicted, from Guiaroo, at some 6 km distance from Mitla, is quite open, and has evidently not been finished.

Cruciform grave-chambers of this type are also known from more remote localities, such as Chilchotla (District of Teotitlan del Camino), Ojitlan (District of Tuxtepec), [22] and at Ejutla.[23] The first-mentioned two localities are situated in regions

[20] Holmes 1897: 232. [21] Saville 1900 and 1909. [22] Saville 1909: 184. [23] Diguet 1905: fig. 3.

Digitized by Google

that are now inhabited by, respectively, Mazatecs and Chinantecs. Of the latter, Saville says: "A slab found near the front of the tomb ... bears carving of Zapotec type". At Chila, in the extreme south of the State of Puebla, Dupaix discovered a cruciform chamber in regard to which Bancroft, inter alia, adduces the following: "There is certainly a general resemblance to be noted in this tomb-structures to those at Mitla ... The discovery of human bones in the lateral galleries leaves no doubt respecting the use to which the subterranean structures was devoted".[24]

To us Europeans it is difficult, at times even impossible, to enter into the Indian way of thinking, and from our viewpoint it appears strange, and almost meaningless, that so much labour should have been expended on the decoration of the burial chambers. It may not, however, be entirely inconceivable that these chambers were also used in certain religious ceremonies, directly or indirectly connected with the cult of the dead. But at the same time it must be remembered that even the most sumptuously decorated room in any Mitla building on account of its narrow door-ways — as always in true Indian houses, there were no windows — must have been very poorly lighted, and that therefore but slight justice could have been done to those magnificent mosaics.

There is striking resemblance between the façade decoration of the Mitla palaces and that of Mayan buildings, a circumstance that has already long ago been pointed out. Saville has even placed side by side a picture from Mitla — an interior view of the western room off the court of the northernmost section of the Group of Columns — and a portion of the façade of the "House of the Governor" at Uxmal, and the points of resemblance are unmistakable.[25] From a purely technical point of view, as regards precision in shaping both the large blocks and the stones of the mosaics, Mitla very considerably surpasses the Mayan buildings. It is worthy of being pointed out that outside the Mayan region, where especially the buildings of Uxmal and neighbouring towns present the greatest correspondence with Mitla, mosaic decoration is nowhere found. The Mayan buildings make, so to speak, an exclusively outward show, while at Mitla the richest decoration occurs inside the rooms. Architectonically, the differences are exceedingly great. Thus, as already mentioned, the buildings of Mitla had flat roofs, while the Mayas employed their characteristic, triangular arch. Saville's opinion, however, is that Mitla and the Mayan buildings belong to the same epoch, and that they originate from peoples whose ancestors were of common stock.

A certain stylistic resemblance between the mosaic façades of Mitla and the stucco-decorated buildings of Chanchan on the Peruvian coast is also noteworthy.[26] Batres maintains that in an earlier epoch the Zapotecs were active in Yucatan and, among other things, erected certain buildings at Uxmal. This theory of his loses considerably in force when at the same time he believes himself able to point to strong influence from Egypt.[27] Unless discoveries of an entirely revolutionizing character be

[24] Bancroft 1875, vol. 4:466. [25] Saville 1900: pl. 17; 1909: pl. 13. [26] Cf. Lehmann 1924: pl. 11, 13; Holstein 1927: figs. 17—18; Schmidt 1929:565; Muelle 1937:16. [27] Batres 1902: 9 and 17.

Digitized by Google

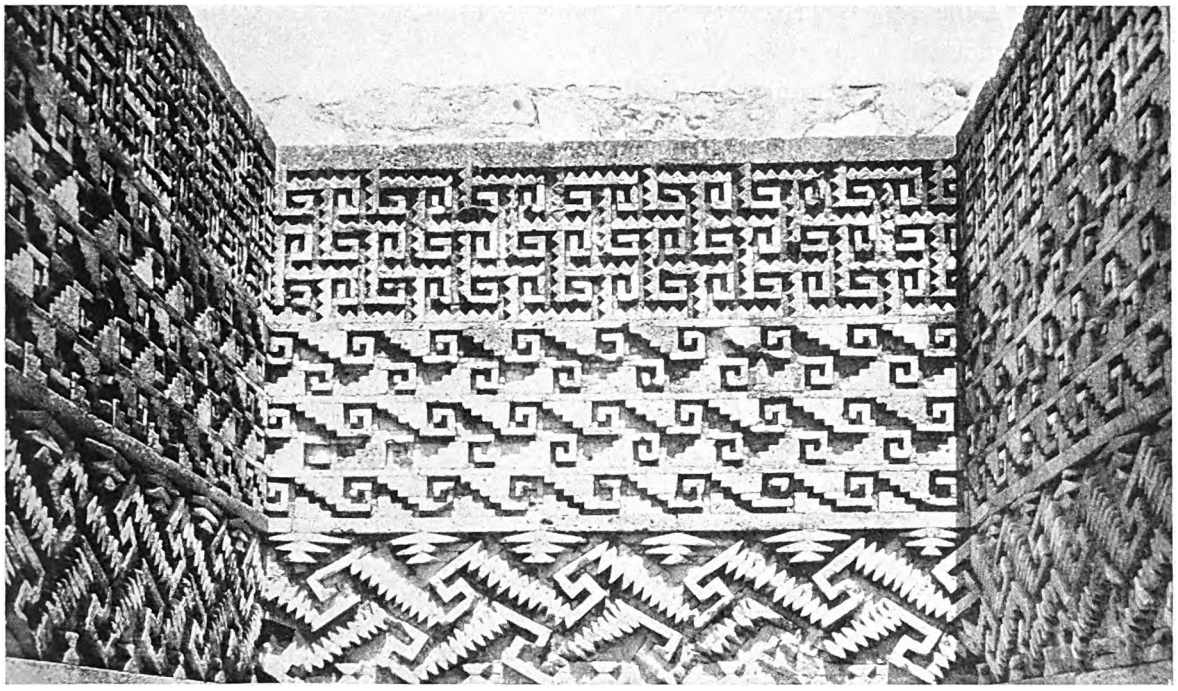


Fig. 11. Mosaic decorations, West Chamber, Group of the Columns, northern quadrangle, Mitla.

made, the decoration of the Mitla buildings must no doubt be ascribed to local artists. If the place was founded by Quetzalcoatl, then the south-migrating "Toltecs" took no hand in its purely architectural features. So far as at the present stage of our knowledge we are able to judge, it cannot by any means be said that there exists any appreciable points of resemblance with the ruines of Teotihuacan or any other of the localities that once were inhabited by that people. The ancient American civilizations possess, above all as regards artistic activity, strongly localized characteristic traits. The Zapotecan sepulchral urns are so typical in their character that they occupy an entirely unique position in pre-Spanish Mexican art.

Ralph L. Beals has carried out an analysis of the architectural monuments of Mitla and of the ceramics there discovered.[28] He, among other things, emphasizes that there is a great difference between the structures north of the river — with the exception of the "Adobe Group" — and those situated south of it. The most important characteristics of the former, which he refers to as Type 1, consist of a marvellous, technically perfect, exhibition of stone-cutter's art, and their stone mosaic decoration. The latter, Type 2, are mainly built of adobe, and no traces of stone mosaic are to be found in the ruins which are in an exceedingly bad state of preservation. Analysis of the pottery material gave the following result: Fragments of the same type of pottery as that found around the buildings of Type 1 occur in structures both of adobe and stone-and-rubble of Type 2. Sections of Type 2 appear to have been erected on

[28] Beals 1934: 89—93.

Digitized by Google

remains of Type 1. Adobe was used in both cases, but potsherds were only found in adobe constructions belonging to Type 2.

On the basis of these observations Beals concludes that there were two distinct building periods. The structures of Type 1 belong to the earlier of these periods, and those of Type 2 to the later, in which building material was partly obtained from the older houses. Their being so widely dissimilar in point of style argues against one and the same people having constructed and used the buildings of both periods. As mentioned above, at Guiaroo a cruciform chamber — also of Beals' Type 1 — was left unfinished. Blocks intended for it had been left on the road from the quarry. This points to a violent and sudden change of ownership at Mitla.

Saville has emphasized that at his extensive excavation work in and around Mitla he only very rarely came upon Zapotecan ceramics or other artefacts typical of the graves in the Oaxaca valley: "The material from the vicinity of Mitla resembling Zapotecan workmanship has all been found on or near the surface of the ground".[29]

From researches that have so far been referred to, and from the excavation and restoration work that had been carried out at the expense of the Mexican Government, it was possible — apart from studies on the spot — by means of various publications to obtain a fairly good picture of Mitla. But there were many questions that remained unanswered. In a way, Mitla was found to constitute a foreign element that jarred in the centre of the country of the Zapotecs. It had been founded by "Toltecs" without being connected with Teotihuacan; the decoration of its architecture — apart from a certain orientation towards Uxmal — was unique; its frescoes were of Mixtecan origin in spite of its being a dependency of Teozapotlán, the capital of the Zapotecan kingdom; and anthropological researches have shown that the present population exhibits a mixture of Mixtecan and Zapotecan elements. It is only through the researches and systematic excavations that were carried out under the direction of Professor Caso that the tangled skein of theories has begun to be unravelled.[30] The Mitla artefact material, until then rather slender, was greatly enriched, and through the grave finds chronologically important connections with Monte Alban were obtained. It thus appeared that underneath the groups of buildings north of the river probably no other graves exist beyond the two that have long been known. Caso therefore supposes that these were used as ossuaries (bone-vaults), one of them for defunct kings, and the other for the high-priests. For it may be mentioned that according to tradition such personages were buried underneath the palaces.

As already mentioned, at Monte Alban five distinct periods of development are distinguishable: Period I, Archaic Zapotec; II, Zapotec, with elements that Lothrop and Vaillant have named Q-complex, Mayan connections; III, Zapotec, connected with the Mayas and with Teotihuacan; IV, Classical Zapotec with typical funerary urns; V, Mixtec occupation. Below the largest structure in the South-side Group was found a grave chamber of the current Monte Alban type, and the pottery contained

[29] Saville 1909: 189. [30] Caso 1935: 27 seq.; Caso y Rubín de la Borbolla 1936.

Digitized by Google

in it belongs to Period IV. Below the court, which was constructed before the grave was made, was found another grave, the pottery of which belongs to Period III. As this group of buildings, according to the researches made, is older than those north of the river, a certain dating of Mitla is thereby obtained. Next in point of age would then come the Arroyo Group, and lastly the northernmost ones. Thus it will be seen that the excavations resulted in conclusions that are the reverse of those arrived at from Beals' more superficial pottery studies.

Another grave-chamber situated outside the "town" was of T-shape, had walls decorated with stone mosaic, and pottery belonging to Period V, which proves that the Mixtecs, who at that time had settled at Monte Alban, also were represented in Mitla. In this grave were also found two golden objects, beads consisting of an earthenware core coated with a thin layer of gold. This is by itself sufficient to prove that this grave is of a date later than that of the Zapotec graves which did not contain any golden objects.

In a grave-chamber situated in the present village were among other things found 20 bells and a number of tweezers of copper, part of a small, circular iron plate, a necklace consisting of small, perforated shells, and a rasping bone. The iron plate is no doubt to be counted among the most remarkable objects that have at any time been discovered in Mexico seeing there is nothing to indicate that it is of post-Columbian origin (cf. p. 75). Hitherto it has always been held as an axiom that iron was unknown to the Indians of ancient America. A clay vessel found in this grave was of Mixtecan type. In a neighbouring grave-chamber were, among other things, found a "metate" (grinding stone) with its "mano" (muller), and a large number of clay vessels referable to Period V.

At Loma Larga, outside the archaeological zone of Mitla, ancient relics have been discovered, among others a very interesting tomb. The grave-chamber has an angular roof and is therefore of a type older than those commonly found in Mitla, cruciform or T-shaped, which have flat roofs. The latter categories have evolved from grave-chambers of the former type, the sides of which are provided with a niche placed in the middle. The pottery found in this grave agrees with Periods II and III, and thus may possibly represent an intermediary stage between those periods. Although the artefacts are of Zapotec style, they differ in certain cases from those of Monte Alban, presumably ascribable to local variation. In addition to a large number of clay vessels — some of which possess counterparts among the Monte Alban finds, and to some extent also among Mayan pottery, while again others are rare at the locality just referred to — four effigy urns were recovered. They are all of quite different types, but individually of great interest.

One of them represents an old man or rather some divinity, who possesses certain Mayan features. Its complicated head-dress among other things consists of a helmet in the shape of a bat's head, which in its turn is provided with various ornaments, such as parts of flowers, and a head of the Rain God, Cocijo. Like the figure itself,

Digitized by Google

this is ornamented with the Zapotecan symbol for "mountain". This proves that among the Zapotecs, as among the Aztecs, the rain god was also a mountain god. The whole figure was coated with red paint. The second urn represented Cocijo, and carried traces of both red, yellow, green and blue paint. In point of style it agrees with the earliest representations of this type from Monte Alban. The third of these urns possibly corresponds to Coatlicue of the Aztecs, while the fourth represents a man with an animal mask, probably that of a dog or a coyote.

The results of the researches — carried out under the direction of Professor Caso — that have here been briefly referred to must be described as extremely important. He holds the view that Mitla was built by the Zapotecs, in which he makes a special point of, among other things, the grave-chamber with niches, urns of purely Zapotecan type, etc. At Monte Alban there have, as already mentioned, been discovered cruciform tombs corresponding to those of Mitla, and a close study of the architecture reveals a great many points of agreement between the two localities. Of importance is also his having considered himself able to establish a definite chronological sequence between the buildings. In doing this he dates as youngest such buildings as show the greatest divergence from those of Monte Alban, in other words are of the most pronounced "Mitla character". Many of the archaeological finds, as the iron object, are also of the very greatest interest.

As no finds in the town site itself date farther back than Period II, it follows that Mitla was founded at a later date than Monte Alban. The grave finds, inter alia, show that at a late period also the Mixtecs penetrated as far as Mitla. It does not, however, appear that any traces of the short-lived rule of the Aztecs have been discovered. The Mixtecs must have expanded their dominion very considerably shortly before the arrival of the Spaniards. For not only from Monte Alban and neighbouring places, such as Xoxo, Cuilapan and Nazareno, had the Zapotecs been driven away, but also from Mitla. How critical the situation was for the Zapotecs is apparent from a passage cited by Caso from an early authority.[31] Two towns, Macuilxóchitl and Tlacolula, that were under the suzerainty of the ruler of the Zapotecs, residing at Zaachila (Teozapotlán), were engaged in a war with Mitla. These towns were situated between Mitla and Monte Alban. Another adjacent place, Teotitlán del Valle, had been subdued and was paying tribute to Cuilapan, which was quite close to Zaachila. If the Mixtecs had been left to continue their rapid advance without interference, Macuilxóchitl and Tlacolula would have been isolated and the Zapotecs manoevred out of the Oaxaca ration.

[31] Caso y Rubín de la Borbolla 1936: 17.

Digitized by Google

PART II

STUDIES IN ZAPOTECAN CULTURE

Mexican history in pre-Spanish times — all the intense labour expended on the investigation of that problem notwithstanding — is still but little known. While in the Old World transition from one epoch to the next usually progressed at a slow rate, as in Sweden from Stone Age to Bronze Age and, lastly to the Iron Age, in America one as a rule gets the impression that the history of civilization is disconnected, that development has consisted of incalculable leaps forward — or backward. It is only in certain cases that it is possible to follow a more prolonged evolution, because the cultures, at any rate seemingly, frequently present themselves fully developed, flourish for some brief period, and then disappear without leaving much to be inherited by their successors. It gives an impression like that of a series of detached dramatic plays: when one act is finished, the scene is changed, and a different drama is performed by a fresh set of actors. Often several troupes side by side perform different plays in different languages.

As far as Mexico is concerned this state of things can to some extent be explained by the circumstance that certain tribes only slowly kept pace with cultural development, and received few impulses from neighbours that were more advanced. Such is the case even to this day. Like most peoples on a less advanced culture-level, the Indians were not much disposed to intimate intercourse with their neighbours except as regards superficial trading connections. In contradistinction to the Aztecs, who possessed an astonishing capability for expansion, peoples like the Mayas and the Zapotecs were attached to the soil and inclined to living in "splendid isolation". The great difference of language naturally also contributed to cultural sunderance, but the question nevertheless remains why the High Civilizations — the Mayas, the Teotihuacan culture, etc. — present themselves apparently all at once fully developed, and only to some very slight degree, though perhaps more than in the past we have been inclined to suppose, influenced by each other. If we do not wish to resort to the theory of Atlantis, or suppose an extensive importation of culture elements from Asia, the explanation must be that considerable cultural evolutions have taken place in localities hitherto unknown, and that the most important culture-creating elements have spread therefrom long before the dawn of the history of the High Civilizations as we know them. Isolated but intense development then followed

Digitized by Google

as soon as external conditions were favourable. The problems here involved are hardly to be solved in any other way than by extensive field-work, above all stratigraphic excavations. Of importance is besides that the higher cultures be, so to speak, taken stock of.

For tracing and establishing the roots of Zapotecan culture it is of paramount importance that it be analysed and "catalogued" for subsequent comparison with the leading creative cultures, the Mayan and the Teotihuacan. A study of that kind, which must necessarily be carried out with close exactitude and criticism, presupposes, however, material brought together by scientifically satisfactory excavations, as well as extensive collections for comparative studies. For this, all that is required is to be found in Mexico. The work has now begun, and when it is completed, more definite data will be available to archaeology, and wide perspectives will no doubt open out.

Taking long vistas in time and space, as between Mexico and South America, on the basis of the heterogeneous material so far available, is of course a hazardous undertaking. But however much more valuable depth-borings in the study of details may be compared to such "aerial surveying" where subjective views are apt to shape the course, the latter method must nevertheless be given credit for a certain value. After all, one of the objects of Americanistic science is that of establishing the cultural connections and developments throughout the continent.

Analysing the culture elements that are common to Mexico and South America, and the cultural influence of one region upon another, constitutes an independent task, a jungle where each researcher tries to clear his own path. Here, as in so many other realms of Americanistic science, Erland Nordenskiöld presents a valuable, objective analysis.[1] In this work will only be discussed certain elements characteristic of the Zapotecs, mainly such as belong to their material culture. By means of detached parallels taken from periods and peoples far removed from each other it is seldom possible to obtain any valuable insight into development where there is a question of matters so capable of various interpretations as a ritual or magical procedure performed by little known people for an unknown purpose. Technical contrivances and inventions, I am for my own part inclined to think, speak a far more intelligible language.

A very attractive task would be that of trying to reconstruct the Zapotecan culture in all its details such as it appeared at the time of the Discovery. But for an undertaking of this kind the material is still lacking. From the accounts given by Spanish missionaries at the time immediately following the Conquest we are to a certain degree acquainted with religious notions, the calendar, etc. Much valuable information can also be extracted from the earliest reports dating from the time of the Discovery and the Conquest. Richer contributions are obtainable from the archaeologic material, both directly — from the objects themselves — and indirectly, as from

[1] Nordenskiöld 1931 : 53—74.

Digitized by Google

what sepulchral urns tell us of dress and personal ornaments. Architecture and "town-planning" can with advantage be studied at the ruins of Monte Alban and Mitla.

Frequently certain Indian villages still have an appearance of being illustrations of timeless Mexico, and it is astonishing how much of the original culture is still surviving, as proved even by cursory investigation.[2] Exact ethnographical researches would no doubt greatly enrich the picture of the ancient culture of the Zapotecs. Here presents itself a vast and profitable field for future research.[3] Some valuable studies have however been published,[4] and interesting information is of course contained in certain accounts of travel.[5] It has also proved possible to obtain historical data from the pre-Spanish era, that have come down by tradition.[6] No doubt most of the culture elements are also found in other parts of Mexico where a higher civilization has obtained. For in spite of linguistic divergencies, the high civilizations of Mexico and northern Central America form, ethnographically speaking, a cultural province embracing a multitude of correspondences as regards mode of living generally, technique, social conditions, religion and science.

In the following will be discussed some few elements of Zapotecan material culture. These brief chapters do not by any means pretend to exhaustiveness, but are rather in the nature of ethnographic sketches and notes.

Trepanning and tooth-mutilation.

The study of Indian "true" medicine, as distinct from the branch where pure magic is involved — which even with us Europeans may not always be easy of discrimination — has, generally speaking, been far too much neglected. And yet the Indians have attained valuable results in the realm of medical art, and have, apart from tobacco, enriched pharmacology with quinine, cocaine, cascara sagrada, ipecacuanha, sarsaparilla, etc. It should be borne in mind that in Europe at the time of the discovery of America the art of healing was at a stage of extreme crudity. The steam bath, temazcalli, certainly possesses very great, even purely practical importance not only as a bath, but also therapeutical. It is frequently used in certain villages in the immediate neighbourhood of Mexico City, and its ancient ritual significance is apparent from illustrations contained in many of the codices. The temazcalli played such an important part among the Zapotecs that Córdova finds it worth special mention. Interesting information as regards the medical knowledge

[2] Cf. Montell 1936: 60—66, 1936 a, 1937: 301—318; Christensen 1937: 133—136; Larsen 1937: 179—192.

[3] During an expedition in the northern part of Oaxaca, Miss Irmgard Weitlaner discovered the old calendar still in use in three Chinantec villages. These villages, Lachixola, Petlapa, and Teotalcingo are situated at a distance of respectively 60, 30, and 40 km. in northeasterly direction of Villa Alta.

[4] Cf. Starr 1901 and 1902; Bauer-Thoma 1916; Pauer 1927; Schmieder 1930. It was unfortunately only after going to press of the present paper that I came into possession of Elsie Clews Parsons' excellent and exemplary work "Mitla, town of the Souls" and of G. Russel Steininger's and Paul Van de Velde's "Three dollars y year". [5] Cf. Seler-Sachs 1900; Starr 1908. [6] Radin 1935.

Digitized by Google

possessed by the Mexican Indians is to be found in several early writers,[1] as is apparent from Neuburger's and Dietschy's interesting studies of these matters among the Aztecs.[1a] But also in surgical skill certain Indian peoples had made good progress. The best exponent of this is found in trepanning.

Trepanning, which is considered as being the earliest methodically performed operation known, was practised in many parts of Europe and northern Africa even in Neolithic times.[2] The reasons for opening the skull of a live being may vary, but nowadays opinions seem to agree that in most cases this operation, in all times and among all peoples, was performed as a rational surgical treatment. An Indian skull from a cemetery in the valley of Yucay, Peru, collected by Squier constitutes the earliest proof of this difficult operation actually having occurred among so-called primitive peoples.[3] Since then the material has increased, and the problem been dealt with by many researchers.

From Europe there is a wide gap to Melanesia and New Guinea, from which localities Wölfel has compiled extensive collections of material from the literature.[4] In America the distribution of trepanning is considerable: from British Columbia, Washington[5] and Michigan,[6] to Peru and Bolivia. In the last-mentioned two territories the material is incomparably the richest, partly owing to favourable natural conditions whereby skeletal material has been extensively preserved.[7] In Bolivia the practice has survived down to our own time.[8] The pre-Spanish Peruvian surgeons performed these operations with astonishing skill. Of this, evidence is borne by a skull bearing five trepanations, all of which had healed. The proportion between the total number of skulls recovered and such as have been trepanned varies greatly. Of the mummies recovered at Paracas, 40 % had, according to Tello, trepanned skulls.[9] Mortality, too, has been found to vary. The best result is presented by a collection examined by Sergi. Here more than 90 % of the performed operations had been successful and the patients survived.[10]

Authenticated instances from Mexico are far fewer in number. The most northerly instance is from the country of the Tarahumara Indians.[11] More or less reliable are statements of trepanned skulls from Chalchihuites, the State of Zacatecas, and from Michoacan.[12] At the excavations on Monte Alban during the season 1934—35 a trepanned cranium was recovered in tomb No. 66. The cutting is over the left eye. It is perfectly circular, is two centimeters in diameter, and was performed with great skill.[13] This is the earliest instance known in the literature of the Zapotecs concerning this difficult operation.

Wölfel connects, apparently in all justification, trepanning with the use of slings

[1] Cf. Sahagun 1890—1896 and Hernandez 1888. [1a] Neuburger 1905: 1897—1905; Dietschy 1937: 1438—1469. [2] Retzius 1901: 11—28; Fürst 1920: 22—28; Wölfel 1925: 1; Guiard 1929 (with an excellent bibliography); Wilke 1936: 115 seq., 255 seq.; Buschan 1937. [3] Squier 1883: 568. [4] Wölfel 1925: 2—14. [5] Smith 1924: 447—452. [6] Hinsdale and Greenman 1936: 1. [7] Muñiz and McGee 1897; Nordenskiöld 1912: fig. 102; Tello 1913; Wölfel 1925: 22—40; Lastres 1935: 59—62; Lorena 1937: 81—85. [8] Bandelier 1906. [9] Tello 1929: 144. [10] Wölfel 1925: 34. [11] Lumholtz and Hrdlička 1897: 389—396. [12] Carreño 1912: 116—119. [13] Caso 1935: 31.

Digitized by Google

and clubs, particularly maces with stone heads. Weapons of those descriptions are apt to cause cranial damage requiring surgical treatment. The methods employed appear to have been identical both in the Old World and the New, and the weapons referred to were in use both in the Pacific islands and in America, at all events in the most important of the "trepanning areas". It appears to me rather rash to assert, as Wölfel does: "Schon allein mit Rücksicht auf die Trepanation, ohne Rücksicht auf die anderen sie begleitenden Elemente, kann der Nachweis der kulturellen Einheit dieser Erscheinungen in Amerika und in der Südsee als erbracht gelten".[14] The third area of distribution, viz. Europe, is still awaiting explanation, and it is not proved that trepanning is of greater age in the South Sea islands than in America. Its sporadic occurrence in America speaks in favour of this custom belonging to the earlier culture elements, which, if imported from the Pacific islands into the Peruvian coast region, must have reached North America via Bering Strait.

Two kinds of tooth-mutilation were practised in Mexico: either the teeth were filed, or they were bored with one or more shallow depressions into which were fixed small plates of gold, jade, turquoise, obsidian, rockcrystal, or iron pyrite. Anything in the way of dental surgery was probably quite unknown, and the operators are rather describable as tooth-jewellers. The custom of deforming the teeth by operative manipulation has already been made the object of numerous studies.[15] From Oaxaca, teeth with inlays, and filed teeth, are known from Mitla, Cuicatlan, Xoxo, and from the Monte Alban excavations. Those from the last-mentioned locality are, among other things, adorned with hematite and jadeite. That both the boring and the filing must have been excruciatingly painful can well be understood by anyone that has suffered in a dentist's chair although treated with the wonderful instruments of modern time. It may well be supposed that for an anodyne in operations the South American Indians used coca.[15a] Saville has suggested the possibility of a wild mushroom having in Oaxaca been used as an anaesthetic.[16]

Tooth-mutilation was practised in different parts of Mexico and must be ascribed a fairly great antiquity, although it does not seem to extend back to the Early Cultures. A number of instances are however reported from the so-called Old Empire of the Mayas. Teeth adorned with emeralds are referred to in Popol Wuh.[17] Among the Maya Indians the custom survived even until the time of the conquest, and is described by Landa.[18] Archaeologically established instances from the Maya region, with no specification given as to whether the teeth were filed or inserted (both methods have occasionally been used on the same tooth) are available from the following localities: Uaxactun, Tikal, Bacalar, Seibal, Champoton, Holmul, Baking Pot, Yoxiha, Tzimin Kax (Southern Cayo District, British Honduras), Palenque, Zopo

[11] Wölfel 1925: 40. [15] E. g. Ihering 1882; Hamy 1882, 1883, 1898; León 1890; Lasch 1901; Boman 1908; Lehmann 1912; Saville 1913; Engerrand 1917; Krickeberg 1918—22, 1925; Mervin and Vaillant 1932; Blom 1934 a.
[15a] Freeman 1924: 22. [16] Explorers Journal, 1934, Vol. 12, p. 7. [17] Pohorilles 1913: 10, 12. [18] Landa 1928: 216.

Digitized by Google

Cave and Tecolpa (near Palenque). Quirigua, Copan, Ulua Valley, Labna and Loltun. In Mexico many instances from archaeological material are found (which could considerably be added to if figural representations with decorated teeth were included): Mixtequilla, Paso de Coyoluca, Otates, Cuetlaxtlan and Cerro Montoso (Vera Cruz), Chalchicomula (Puebla), Cholula, Tenochtitlan, Teotihuacan, Gualupita, Zacapú, Jacona and Tzintzuntzan (Michoacan) and Tacamarca (Jalisco).

Judging by its distribution it would appear as if this practice originated from the Maya Indians. It is extremely interesting to note that, as already has been mentioned, the custom survived among them for some years after the arrival of the Spaniards. In Peru it was unknown. Filing however is archaeologically authenticated from northwestern Argentina and adjoining parts of Bolivia,[19] and in post-Columbian time from, among others, Indians of Panama and Brazil. In the latter cases account must no doubt be taken of Negro influence.[20] Thus it will be seen that the finds of stopped teeth from the province of Esmeraldas, in Ecuador, are the only ones known from South America. As a culture wave coming from the north appears to have impinged upon this part of the South American coast it may be supposed that this custom was more or less directly imported. It is noteworthy that only in Esmeraldas gold seems to have been employed.

In the Philippine Islands the teeth were decorated with small fillings of gold, a direct counterpart of the Ecuadorian practice.[21] The fillings are as a rule small, but in return a number of them occur on the same tooth. The custom still survives in Borneo and Sumatra only with the difference that gold is supplanted by brass. No evidence has been adduced, or any probability shown, that tooth-filling with gold — or the custom of tooth-filing which also occurs in southeastern Asia — has been transmitted to America. Against this speaks its great antiquity in the Maya region. It does seem more natural to connect the Ecuadorian instance with Central America and Mexico than with the Philippines.

Clothing and textile art.

It may be assumed as a fact that no sample of original Zapotecan textile art from the pre-Spanish era has been preserved to our days.[1] That the Zapotecs were skilful weavers is, however, apparent from certain statements contained in the historical notes that have been given above. We also know that the tribute paid by the villages in the Oaxaca valley to Tenochtitlan partly consisted of fine textiles, cf. p. 21.

Their funerary urns show that the mode of dress varied not a little, a fact which presupposes advanced skill in textile matters. Judging by the urns mantles adorned

[19] Boman 1908, vol. 2: 579 seq. [20] Cf. Lindblom 1924: 45. [21] Guthe 1935.

[1] In Museo Nacional, Mexico, are preserved textile fragments stated to have been archaeologically recovered in the Mixtec area (Nochixtlan). So far as I know this find has not been published.

Digitized by Google

with feathers were also used. Spindle-whorls, and needles suited for sewing-work, are, however, hitherto remarkably poorly represented in museum collections and publications.

Quite a large number of small Zapotecan earthenware heads, as well as here and there a sepulchral urn, pl. 10, exhibit a sort of head-dress resembling a turban. From other localities, e. g. Teotihuacan, heads of related types are known and even in the codices this turban-like head-dress is to be found.[1a] It is, however, more probable that here is represented a coiffure of false tresses of the quaint type still in use in certain parts of the Zapotecan area. Pauer gives the following description from Yalalag of these turbans:

"Una vez escarmenado el pelo con aceite de almendras o con *pitzche,* que es la masa que tiene el hueso del mamey, que lo hace aparecer negro y brillante como si estuviera recién lavado, es partido en dos bandas, por le centro de la cabeza, quedando una a la derecha y otra a la izquierda. Cada banda es dividida a su vez en tres gajos con los que se hace la trenza, pero antes de terminar ésta se le agregan los *tlacayoles* o sea un rollo de diez o doce cordones de lana que tienen una longitud de dos a tres metros; con ellos se sigue trenzando el pelo y una vez terminado éste, los cordones solos. Cuando se han hecho las trenzas en toda su longitud son levantadas sobre la cabeza de modo que al nivel del nacimiento del pelo, por la parte posterior, quedan cruzadas, es dicir, la trenza izquierda se convierte en derecha y ésta en izquierda; la misma operación se hace por la parte delantera al nivel de la frente. Una vez así, la trenza que queda a la derecha es llevada al lado izquierdo e intercalada en el frente, entre los dos círculo de trenza que han formado éstas, y lo mismo se hace con la izquierda, dejando caer las puntas hacia atrás, sobre la cabeza, lo que además de completar el peinado evita que los rayos del sol toquen directamente a la misma. Terminada esta operación el peinado en general es echado hacia atrás, dando el aspecto de un artístico turbante."[2]

Quite striking is the resemblance between one of these peculiar, turban-like hairdresses of the Zapotecs and a human head with preserved tresses of hair from Nasca, now in the Göteborg Museum:

"All the hair is collected in two long rolls which are tied round with string to keep them in shape. The rolls are then arranged as to form a turban built up of hair. Whether the whole mass of hair really grew on the individual's own head is difficult to tell, but it is quite possible that it has been supplemented with false hair,seeing that the use of wigs, at any rate for the adornment of mummies, was known in ancient Peru."[3]

Of interest is Corner's theory of a connection between the peculiar, pleated kerchief of the Tehuantepec women and the large feather head-dresses illustrated on certain funerary urns.[4] A thorough study of their use might perhaps show whether they date back to pre-Spanish times and are founded on religious notions — those

[1a] That the earthenware heads from other localities, here just referred to, are actually intended to represent head-dresses consisting of false tresses of the same type as that obtaining among the Zapotecs of Yalalag cannot very well be doubted. For it may be noted that the Aztec women of the Cuetzálan surrounding districts, in the northeastern Puebla, wear head-dresses of a perfectly identical style. Miss Bodil Christensen, who has been kind enough to bring these interesting observations of hers to my knowledge, considers it by no means improbable that the use of turban-like head-dresses of this kind is still surviving also in other localities in this part of the country.

[2] Pauer 1927: 49—50; fig. 7—8. [3] Montell 1929: 162—163; fig. 80. [4] Corner 1899: 38; pl. 7, figs. 55—56.

Digitized by Google

large head-dresses were no doubt in the main connected with the cult. This theory is held by Martínez Gracida.[5] But whether these "velas tehuantepecanas" in their present form are of the original archaic type, or only "translations" in cloth of earlier feather ornaments, or of Spanish articles of attire (shirts with lace collars) — though misapprehended — remains, however, an open question. Another legendary explanation is given by the Tehuantepec people of to-day:

"There is a tradition that once a supply of lace baby dresses was washed ashore from a wreck: straight little frocks with pleated ruffles around the low-cut neck, around the bottom, and on the short sleeves in a fashion not unusual in the fifties or sixties. The Tehuanas, so they say, liked the dresses, but did not understand their use. The necks, cut for little girls, would not slip over a grown woman's head, but stuck, beautifully, under the hair, in front of the ears, making a sainty white aura for a lovely face. This is still the style for going to mass, with the ruffled skirt hiding the arms, and the little sleeves dangling useless front and back. Other times they lay the dress an the head with the ruffle turned back and flowing down the back in a panoply of grandeur."[6]

The cochineal insect *(Coccus cacti),* which, inter alia, lives on certain species of cactus *(Opuntia),* was largely cultivated in the Oaxaca valley. The red colouring matter yielded by it was also popular among the Aztecs, who called it nocheztli (the blood of the Opuntia cactus). The villages of the Oaxaca valley that were laid under tribute had to supply Tenochtitlan with 20 bags of this article annually, cf. p. 21.

It is especially interesting to note that the Zapotecs also know how to use the purpura mollusc for dyeing. The women of Tehuantepec, for example, use purple-dyed skirts, although this custom appears to be falling into desuetude. Even as early as 30 years ago the manufacture of the dye was much restricted on account of the difficulty experienced in obtaining the shell-fish which were becoming increasingly rare. "Their fixed market value was not less than ten dollars gold".[7] Tehuantepec and Huamelula appear to be the seats of the purple industry. The technical procedure is as simple as it well could be:

"In the spring, about the beginning of March, the latter started in boats laden with cotton skeins and went northward along the coast, visiting certain rocks which are exposed when the tide recedes. Slipping a skein over his left wrist, the fisherman wrenches one sea-snail after another from the wet rocks, blows on it, causing it to exude the dye-stuff which resembles a milky froth, and then dabs the cotton thread with numerous shells in succession, until it is thoroughly saturated. When each shell had yielded its small supply of liquid dye, some fishermen pressed it to the rock and waited until it adhered thereto, but others laid the shell in a pool. When treated thus the same shells yielded a second though diminished supply when the rocks were visited on the return journey."

That the metod is of great antiquity in Mexico is evident from the fact that the dye is largely used in, e. g., Codex Nuttall.

The shell-fish *(Purpura patula)* is still in use for dyeing purposes also in Guatemala, "where cotton thread treated with this dye exceeds in value silk thread co-

[5] Martínez Gracida 1923: 24. [6] Fergusson 1934: 149.
[7] Most of the information given below is cited from Nuttall 1909: 368 seq.

Digitized by Google

loured with modern commercial dyes".[8] Very renowned were the purple dyers on Nicoya, in Costa Rica, where the method still appears to survive.[9] Our authorities from that region are Thomas Gage, from the 17th century, and the Ulloa brothers, from the century next following. Purple is even found on archaeological clay vessels from these parts. Particularly noteworthy is the circumstance that pre-Columbian textiles from the Peruvian coast with certainty were occasionally also treated with this colouring agent.[10]

The exact locality in America where purple-dyeing was originally invented is impossible of definite determination. In the following an account will be given of certain culture elements, such as various forms of metallurgical technique, that with certainty have been imported from South America. Seeing that textile art attained its highest development on the Peruvian coast — Peruvian textiles, as we know, stand unsurpassed — it does not appear improbable that also purple-dyeing was first invented by the chemists of ancient Peru.

Weapons.

According to many accounts from the conquest of Oaxaca, the Zapotecs possessed a formidable weapon in their pikes, which caused the Spaniards heavy losses. Bernal Díaz, as already mentioned, held the Zapotecan pikes superior to those of the Spaniards. The Zapotecs appear to have had pikes of the same type as those of their neighbours, the Chinantecs, who occupied the country between theirs and Tuxtepec. The pikes of the Chinantecs won to such a high degree the respect of the Spaniards, expert men-at-arms as they were, that Cortés had 300 of these weapons sent for when in May, 1520, he marched against his rival, Panfilo de Narvaez. He provided his messengers with a sample point of copper, with which the pikes were to be fitted in the place of the usual stone points. Those pikes were of good service both in the surprise attack on Narvaez and on later occasions. The Aztecs, too, perceived their excellent qualities and provided themselves with pikes of this type after the expulsion of the Spaniards from Tenochtitlan. At the fall of this city these weapons were in general use among the combatants of both sides.[1] According to Herrera, they were 38 "palmos" long.[2] A palmo equalling 20 cm, it would follow that they had the respectable length of 7.60 m.

It is a remarkable fact that no heads either of spears or arrows have been recovered from the Zapotecan graves on Monte Alban. It is only from the last period, when the Mixtecs had driven away their neighbours, that some stone points had been found. This goes to show how exclusively Monte Alban was a religious centre.

Other weapons for hand-to-hand fighting were clubs, sometimes with heads of

[8] Lothrop 1926: 39. [9] Lothrop 1926: 181. [10] Nordenskiöld 1912: 160; Nuttall 1909: 377.
[1] Bancroft 1883, vol. 4: 381—382, 395, 514, 564. [2] Herrera 1726, dec. II, lib. X, cap. III.

Digitized by Google

stone. Weapons of this type are preserved in Museo Nacional, Mexico, and an effigy urn here depicted, pl. 18, represents a warrior with shield and club.

Bernal Díaz also mentions that the Zapotecs were skilful bowmen, and that they used slings, with stones for projectiles. Seler depicts a sling stone from Zoquitlan of pure bola stone shape. That bolas, in the strict sense of the term, were ever used in these parts is extremely improbable.[3] According to Joyce, Burgoa states that the javelins of the Mixtecs were poisoned.[4] Spears do not seem to have been universal weapons in Mexico, and, so far as I have been able to ascertain, the Mixtecs appear — if Burgoa's statement is correct — to have been the only ones that practised such poisoning. Poisoned arrows, on the other hand, are of fairly frequent occurrence in northwestern Mexico.[5]

Of absolute proofs that the spear-thrower, atlatl, was in use among the Zapotecs I know of none. Two funerary urns illustrated by Mason seem, however, to represent men in a standing position, who in the left hand are holding an arrow and in the other an object which may possibly represent an atlatl.[6] From the Mixtec area, quite close to the border of the Zapotec country, atlatls are however known.[7]

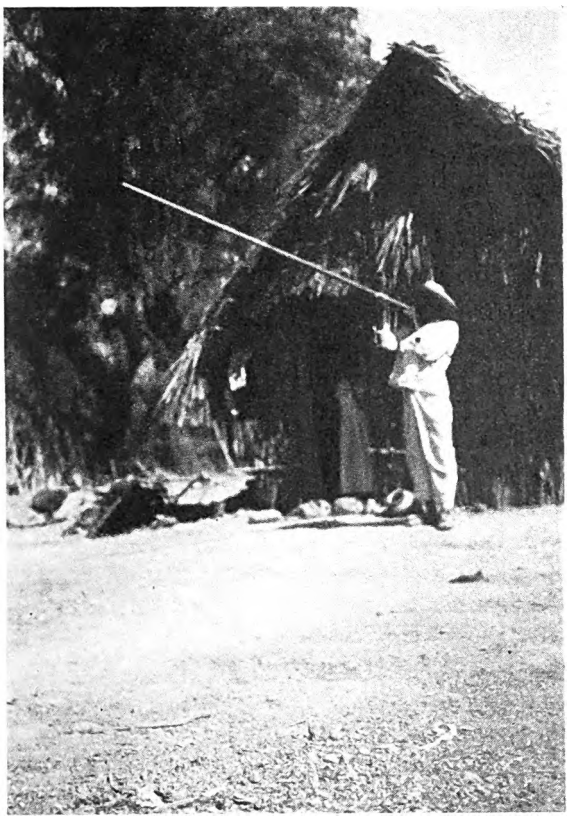
As regards the occurrence of the blow-gun in Oaxaca, to the best of my knowledge only laconic statements are to be found. Neither do I believe that any illustration of it has been published. Thanks to the kind courtesy of Mrs. Elsie McDougall, Woodstock, New York, I am here able to reproduce two photographs taken by her, figs. 12—13. To this she has added the following interesting information:[8]

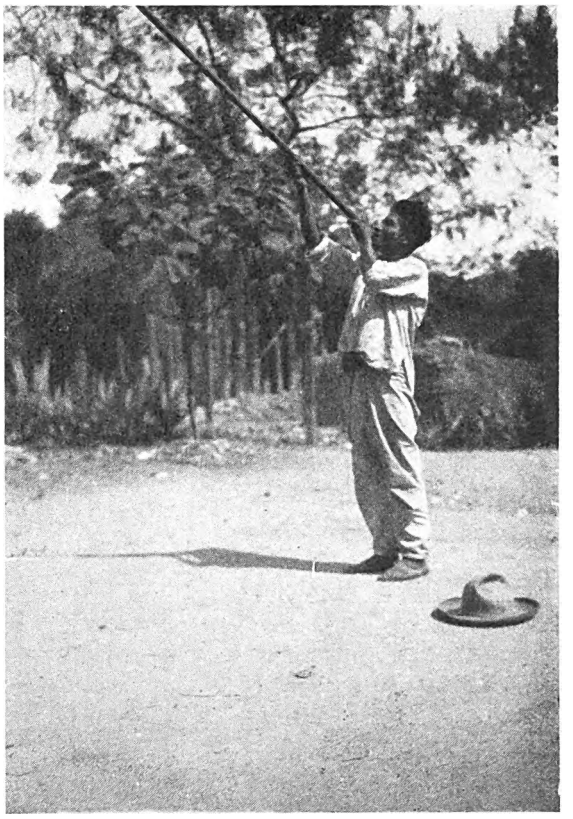
"In January of this year (1936), riding back to Ocotlan, a town some thirty miles south of Oaxaca, from a day spent in a small pueblo, two or three youths carrying blow-guns, one of light wood, and the other of dark, were encountered, coming from the direction of the town. The Indian youth who was 'en ancas' on my horse, and who had been spontaneously supplying information regarding much that met his all-seeing eyes told that it was the custom of the town youths to take cerbatanas, and go off into the country to shoot birds. Sunday was the special day, at least as far as my informant's own use of the blow-gun was concerned. The birds were relished, cooked, and eaten with tortillas, evidently as a special repast. The Indian youth, during the remainder of the journey, pointed out birds, of which one was a dove, which were especially succulent.

A few days later, when again visiting the small pueblo, and was seated in the cleared 'patio' adjoining one of two Indian huts, I told of having met the youths with cerbatanas. Besides the three or four women intent on figure-patterning the girdles they were weaving, their loom-sticks suspended from the 'blackzapote' tree which provided us with shade, there were two men, doubling yarn with the aid of spindles. One of these men put down his spindle, and fetched a cerbatana from one of the huts and showed how it was used. He then drew my attention to some berry-bearing branches of a bush, which had been cut and placed amongst the branches of the tree towards which his blow-gun had been aimed. The berry branches had been put there to attract birds to the patio tree. I did not enquire as to the provenience of the ammunition, but, from what I know of the resourcefulness, as well as of the poverty of the small community, judge that the pellets, if of clay and not pebbles, were made by the men who, amongst many

[3] Seler 1904: 366. [4] Joyce 1914: 125. [5]) Beals 1932: 195. [6] Mason 1929: 185, 187. [7] Saville 1925: 49.
[8] In a letter to the author of May 11, 1936.

Digitized by Google





Figs. 12—13. Blow-guns in action, fig. 12 at Ocotlan, fig. 13 at Mitla, Oaxaca. Courtesy of Mrs. Elsie McDougall.

creative activities, made both the clay and the stone-disk whorls used with the spindles. Clay pellets are also made by the special potters of the region, and were for sale in the market.

Also, assuredly, there is no element of indulgence in the use of the blow-gun in this pueblo, where the luxuary of meat is very rare, and then generally consists more of savour than of sustenance, the portion being so small.

Zapotec is the current speech of the pueblos of the Ocotlan region, and the town's population is largely Indian.

Later in January, in Mitla, after a day spent in the patio of an Indian weaver, I passed through an adjoining patio, a short-cut to the road, and came upon a man in the act of shooting a bird with his blow-gun. The man had been weaving a sash-girdle, and had ungirdled the clothbar of his loom, putting the bar on the ground, when the sight of the bird provoked the use of the blow-gun, evidently kept near to hand."

Judging by archaeological finds — funerary urns and small clay figurines — both shields and wadded armour were used. The shields, from what can be seen, were always circular, cf. pl. 18. Above has been mentioned Bernal Díaz' statement that the Zapotecs used shields which covered the whole body. The only instance of cotton armour known to me is a statement by Seler. He acquired a number of small earthenware figurines that were dressed in wadded armour, holding a shield in one hand and a club or a lance in the other. They were mainly obtained from Zoquitlan, in the Tlacolula district.[9]

[9] Seler 1895: 39.

Digitized by Google

Musical instruments.

In some cases the figures on the funerary urns appear to be provided with objects that might represent cocoons, or the like, attached to their clothing and serving as dancing rattles. Small bells made of copper are not infrequently found in archaeological collections from these regions, and on the figures are seen certain ornaments resembling metal bells. That this was actually the case is however not very probable, seeing that metal objects have not been found in association with sepulchral urns, and probably only came into use during the very last pre-Spanish epoch.

Shell trumpets, rasping bones (omichicahuaztli),[1] and earthenware whistles — usually in the form of erect-standing figures — constitute as far as I know the only authenticated real musical instruments of the Zapotecs. Toy whistles of the ancient type are still manufactured and sold in the markets of Oaxaca City. Hollow figures containing small loose objects, rattles, also occur. But it may be supposed that in Oaxaca were also in use the most commonly occurring Mexican musical instruments, such as those depicted by Sahagun,[2] or described by Seler.[3] From what can be seen, shell trumpets formed part of Aztecan orchestras. At the excavation of Tomb 7 at Monte Alban, a big shell trumpet was found on top of it.[4] It is end-blown, like all American trumpets and the blowhole was made by breaking off the point of the shell. As shell trumpets, apart from rain ceremonies and "profane" signalling, were largely used for signalling in war, it is not impossible that it was by these instruments the sound was produced that irritated the Spaniards when first they invaded the mountain district of Oaxaca, cf. pp. 25 and 28.

Shell trumpets are to be found in all parts of the world where suitable large shells are obtainable. In America their area of distribution extends from Canada to the Araucanians in Chile. From the coasts they were frequently spread into the interior in the course of trade. They occur on the northern coast of South America, and among the Tupinamba on the Brazilian coast. Shell trumpets were also used in the West Indies and the area now known as the U. S. A., with the possible exception of the Mississippi Valley.[5] In Mexico they are known from the Huichol, Aztecs, Tarascans, Mayas and Lacandones. Izikowitz, who in his distinguished work on musical and other sound instruments of the South American Indians also has analysed the shell trumpet and its geographical distribution, considers that "it has spread from Central America and Mexico".[6] If this was so, it nevertheless remains to be proved.

Pottery.

Judging by everything, it was upon funerary urns that all the interest of the Zapotecan potters was centred. In this direction they spared no pains, and attained, as will be apparent from many of the illustrations that are here reproduced, results

[1] Caso y Rubín de la Borbolla 1936: 10. [2] Sahagun 1922: pl. 12, 48. [3] Seler 1904: 695 seq.
[4] Caso 1932 a: 495. [5] Boekelman 1936: 27—31. [6] Izikowitz 1935: 227—229.

Digitized by Google

that were of great merit both from a technical and an aesthetic point of view. Other ceramic products of theirs did not, on the other hand, come up to any very high level of perfection, and only an inconsiderable proportion of the latter material has been published. It is above all through the excavations of the last few years at Monte Alban and Mitla that the depicted and described pottery material has been substantially added to. So far, Caso has only published part of the rich harvests he obtained from the large number of tombs excavated by him and his assistants, but even so, quite a good deal of interesting material has to a certain extent thereby become available for study. In addition to simple bowls and pots — in both cases usually with rounded bottom — "flowerpot"-shaped vessels, cylindrical jars with or without three small feet, jars and bowls with conical feet, incense-burners in the form of saucers with cylindrical handles, etc., more specialized types also occur. Of pottery-stands there are a few examples. They are fairly tall, and have a cylindrical middle portion. Especially noteworthy are bowls with a fairly flat bottom, incurving sides and large, spherical feet, cylindrical vessels with flat lids, vessels of tea-pot shape, vessels with a lip, and others with a very high cylindrical neck and greatly outcurving mouth. At the excavations carried out by the Swedish expedition at Teotihuacan in 1935, a grave was found to contain a very large number of small vessels of the last-mentioned two types.

Very remarkable are the large-diametered cylinders, tubings or pipes, already referred to in connection with the Monte Alban excavations. Judging by their shape they may have been used as water conduit pipes. They have, however, never been found in circumstances from which their use could be definitely determined. Smaller lots of objects similar to these were also found by us at Teotihuacan.

In the ordinary pottery the ware is usually coarse and grey, that is to say of the same general character as the effigy urns. But there are exceptions, such as vessels of dark or brown ware and with polished surfaces. Painted decoration applied prior to the firing does not seem to have occurred. But on the other hand there have at Monte Alban been discovered numerous vessels with fresco ornaments in various colours, as well as pottery ornamented in negative painting — lost colour — technique. The fresco decoration appears to have been applied as a substitute for actual, painted decoration. Many sepulchral urns are ornamented in that way. The gaudily painted calabash bowls, the manufacture of which is stated to have been kept up since pre-Spanish times, may possibly constitute a last surviving relic of fresco decoration.

In the graves on Monte Alban, as well as at Mitla, has also been found ceramics that did not emanate from Zapotecan potteries. Among this, extreme interest attaches to a double jar — or a twin vessel — exhibiting so many points of agreement with a corresponding type from the Peruvian coast that — however bold the assertion may appear — some sort of connection cannot very well be denied. Recurrence to this will be made below. But even vessels allied to the so-called glazed pottery, so widely distributed over Mexico and Central America, occur, as well as others that bear witness

Digitized by Google

of importation from the Maya Indians. In this connection it should be mentioned that to this day trading intercourse is being carried on between Zapotecs and Maya Indians in Guatemala (Pokoman Indians).[1] At the same time there has, as already pointed out, here been recovered pottery indicating influence from Teotihuacan. In every case the imported ceramics appear in association with pottery of Zapotecan type. In July, 1936, was in Tehuacan discovered a grave of pure Zapotecan type, which is in itself remarkable seeing that up to that time no evidence existed of that culture having extended so far westward. But even greater importance attaches to the circumstance that a large proportion of its contents consited of clay vessels of pure Teotihuacan type. Strangely enough there was also recovered a wooden idol.

At many places in Mexico clay vessels have been recovered, usually bowls or cylindrical vessels, of good quality ware, and ornamented with relief carving of scenes. They differ, above all in point of decoration, from other pottery in association with which they have been found. Vessels decorated in a similar technique are also known from Ecuador, northern Peru, and the island of Marajó in the Amazon mouth. Batres depicts a vessel of this kind from Monte Alban.[2] Other localities where they have been found are Ranchito de las Animas,[3] Calpulalpan,[4] and Teotihuacan.[5] In the Maya region carved or sculptured decoration was far more common, and pottery of this type is known from numerous localities.[6] Whether all the vessels that have been illustrated and described as adorned with cut decoration or relief carving are actually capable of being classed under such a heading appears somewhat doubtful. Some of them have rather the appearance of having been shaped in a mould.[7] While the Teotihuacan finds appear to bear witness of Mayan connections, there can be no question of the finds from Calpulalpan having been influenced from that quarter. This does not, however, exclude the possibility of the technique originally having come from the Mayas. On this point it is said by Mary Butler, who has devoted close study to Mayan pottery: "Relief carving of scenes on pottery may very well have been a specialized development in the Maya part of Middle America, and have been a result of Maya influence when found elsewhere ... The one from Monte Alban is very possibly a trade piece of Yucatecan Carved Slateware".[8] But as vessels in the same technique have also been found in Teotihuacan it is possible that the vessel in question was imported from that place, unless it be that only the technique was imported.

Among all the results so far gained through the Monte Alban researches preeminence should perhaps be given to the establishing of five consecutive periods. It is by means of the pottery material recovered from the graves that this exceedingly important discovery was rendered possible. Of this, a summary account is given below.

[1] Lothrop 1928: 394. [2] Batres 1902: pl. 22. [3] Strebel 1885: pl. 5 and 14. [4] Linné 1936: fig. 3, 1937: fig. 22. [5] Linné 1934: figs. 127—130. [6] Merwin and Vaillant 1932: 79; Lothrop 1936 a: 140 seq.

[7] Definitely to determine that a given decoration of this type was *not* shaped in a mould and subsequently hand-finished would no doubt be very difficult. Moulds of considerable dimensions were certainly employed. Cf. Ricketson 1935: figs. 1—4. [8] Butler 1936: 461.

Digitized by Google

The extent to which modern Zapotecan potters, particularly as regards their technical methods, might serve as illustrators of pottery-making in ancient times I do not know. Of considerable interest is however the following piece of information.

According to what Mrs. Helga Larsen, Mexico City, has observed and kindly told me, asymmetrical clay vessels of the so-called shoe-shaped type — examples of which have been archaeologically recovered — are still being used among the Zapotecs. These vessels are pushed sideways into the fire, which can thus at the same time be used for, e. g., the frying of tortillas. Vessels of this type are known from different parts of America, and vary considerably in shape. They have usually the appearance of somewhat narrow-mouthed cooking pots with one side greatly bellying out. In some cases they present a suggestion of bird shape, while in others they have the character of a fairly naturalistical representation of a human foot. Of the above information the most noteworthy point is that the shape of the vessels is bound up with their use and that consequently bird shapes, etc., are secondary developments.

Stone work.

As stone-cutters, especially in their capacity of assistants to the Mitla architects, the Zapotecs occupied a very prominent place among such craftsmen of ancient Mexico. Of this there is very full evidence in the rich ornamentation of the Mitla temples with mosaics of cut stones, the massive door lintels, the huge stone pillars, etc. But in a general way the Zapotecs, as stone-workers, can hardly be said to have gone beyond the stage of skilled artisans, proficient at their trade, the results achieved by them being admirable more from a quantitative than from a qualitative point of view.

The highest perfection of their work is found in the stelae and the reliefs, which occasionally exhibit well-balanced composition and considerable technical knowledge. That in such cases — unless craftsmen among the priest class be supposed — they worked according to drawn plans, or diagrams, may no doubt be accepted as certain. Figs. 21 and 26 illustrate examples of tablets of that kind, with figures and hieroglyphs in low relief.

The sculptural representations of human figures are coarse and angular, often flattened, and with a definite cubistic appearance, fig. 17. A remarkable circumstance is their close correspondence with figures from the region of the Totonacs.[1] The human heads, figs. 14-16, on the other hand, attain a fairly high level in their simple and summary form. At the back they are hollowed, which seems to indicate that they served as architectural details.[2] Typical of the Zapotecan area are heads that are flattened, depressed almost so as to form a plane surface, to which however closely allied forms are found on the Atlantic coast and in Salvador.[3]

[1] Strebel 1889: pl. 3—5, 25. [2] Cf. Saville 1909: 174, 183. [3] Danzel 1923: 31; Batres 1908: pl. 5.

Digitized by Google

Figs. 14—17. Heads and figure of stone. Vicinity of Oaxaca City. (1/4) Figs. 14:23. 8. 164, 15:23. 8. 163, 16:23. 8. 161, 17:23. 8. 171.

Of metates and manos some few specimens have been archaeologically recovered, and these, like the other stone objects of lesser size, on the whole correspond with finds from Central Mexico. Among objects of the latter category may be noted bark-beaters, stone celts, arrow- and spearheads of stone or obsidian, knives of obsidian, and personal ornaments. The last-mentioned category mainly consists of bead necklaces, and is variously illustrated on the human figures of the funerary urns. Beads of jadeite were especially higly valued, and their manufacture was, dependent on the supply of the raw material, limited to certain centres in Mexico and Central America. One of the most important of these was Oaxaca, a district which paid its tribute in jade to the Aztecs, and from there (Oaxaca) this much-desired article was also spread abroad by trading. Even during the Early Cultures of the Valley of Mexico jade was traded from Oaxaca.[4] Jade and hematite also found use as inlays — for ornamental purposes — in teeth, as already mentioned.

In Tomb 7 on Monte Alban were, as has been mentioned in the foregoing, also recovered objects of tecali, or onyx marble, rock-crystal, etc., as well as stone ornaments with gold inlays. Pieces of work of the last-mentioned category are also known from Coclé, in Panama, and from the Peruvian coast.

Metals and metallurgic technique.

Oaxaca was *par excellence* the land of gold in ancient Mexico, and even in our days a certain amount of the much-coveted metal is being obtained, although from various reasons a large proportion of the mines have closed down. In the foregoing, account has been given of the expeditions that, as early as 1519, Cortés despatched

[4] Vaillant 1930:49; 1935 a:244.

Digitized by Google

with instructions to study the gold-mines of the Aztecs, which were principally situated in this part of the country. Gold was the lodestar during the bitter fighting that took place in the years that followed. Here has also been cited Bernal Díaz' relation as to how Figueroa, who was subsequently sent out by Cortés, instead of carrying out his military task, with greater success went in for plundering graves of their gold.[1] Nowhere in America has since the time of the conquest golden objects been found so numerously as in Oaxaca. A large proportion of the Aztecs' golden levy came out of that country, which each year had to pay its tribute, partly in gold, to the "Romans of Mexico". The contribution of the villages of the Oaxaca valley amounted to 20 golden ingots of the shape and size of a plate, and one inch in thickness, cf. p. 21.

To what extent the Aztec goldsmiths were influenced by Oaxacan style and technique is difficult to ascertain by reason of so few objects from the Valley of Mexico and neighbouring regions having been preserved. Judging by the description of the objects obtained from the Aztecs by the conquistadores, and of finds made in Oaxaca, the points of correspondence appear to be striking. There are many indications that the Aztecs not only imported gold, but also the artisans themselves, who are said to have been quartered in the suburb of Atzcapotzalco.

In his handsome volume, "The goldsmith's art in ancient Mexico", Marshall H. Saville among other things gives an account of the Oaxacan gold finds ever since Figueroa's grave-robbing activities right on to the beginning of the present century. Along with his description of the objects, he discusses symbolical significances and technical methods. The value of this work is further enhanced by its very exhaustive and exact bibliographical notes.

Previously to Professor Caso's discovery of Tomb 7 on Monte Alban, all Oaxacan golden objects had been accidentally recovered through local inhabitants having come upon graves while working the ground, sinking wells, etc. Here, as so often elsewhere, the majority of the objects were melted down. In 1875 the largest known treasure since the days of Figueroa was recovered at the village of San Sebastian, near the town of Tehuantepec, and it has probably only been surpassed by the golden ornaments contained in Tomb 7. Of the objects in question, which are said to have possessed a metal value of two thousand pesos, only four have been preserved.

While the greater part of the valuables of Tomb 7 undoubtedly are of Mixtecan

[1] Figueroa's activities as a despoiler of tombs constitute no isolated phenomenon. On the contrary, grave-plundering was at times looked upon as a — so to speak — regular source of income during the eras of discovery and conquest of the New World, or, in the words of one of the most profoundly learned in that epoch of the history of the world: "Das Aufspüren, Aufbrechen und Ausplündern der Grabstätten der Toten war ein niemals fehlendes Glied der Technik der Konquista. Grabschändungen waren den Spaniern etwas vollständig Natürliches und die Regel. Sie spürten alles auf, es entging ihnen nichts; durch Übung wurden sie sozusagen Gräberspezialisten und wussten, wie schon früher bemerkt wurde, mit den Toten- und Bestattungssitten der Eingeborenen ganz ausgezeichnet Bescheid" (Friederici 1925—1936, vol. 1: 563—564). In certain parts of America this particular industry has survived into our times, not as an interesting piece of anachronism, but as an important factor with which archaeological research has to reckon (Arango 1918; Linné 1929: 190; 1936 a: 95—97).

Digitized by Google

origin, golden objects exceedingly closely allied in point of style are said to have been found in Zapotecan graves. But if we may judge from the few examples of the goldsmith's art in ancient Mexico that have escaped the melting pot, a certain degree of correspondence appears to have existed in most parts of the country. To some extent this may be explained by the fact that until a late period no metallurgical technique whatever existed in Central America or Mexico. In connection with the account of Monte Alban it was mentioned that Lothrop considers two of the golden objects from Tomb 7 as being of Peruvian manufacture.

Apart from gold, copper seems to have been the only metal worked to any considerable extent. The peoples of ancient America had never learnt how to extract iron from the ore, except in a case to be referred to further on, and silver objects are few in number. Of copper were manufactured bells, rings, axes, etc. A solitary instance of fixing pieces of copper in the eyes of a figure on an effigy funerary urn is adduced by Mason.[1a] The copper objects most commonly occurring are thin, T-shaped objects with semilunar edge and a straight handle. With a view to giving them rigidity, they are very often turned up at the margin. The purpose served by these objects is unknown; for axes they would be too weak, and for knives too soft, seeing that even the rudest flint or obsidian knife would by far be their superior. They may possibly have served some ritual purpose. Axes of the same shape were used at ceremonial dances in Central Mexico.[2] As archaeological finds they occur in such large quantities that it has been supposed that they served as an article of barter, or as money. We have, in fact, an authenticated instance of one of their uses having been that of a standard of value, although this use may have been of a secondary character. In regard to this, Medina has in El archivo de Indias, in Sevilla, discovered a written document addressed to the President of the Royal Council of the Indies from one Francisco Lópes Tenorio, domiciled in Antequera de Oaxaca dated 31st October, 1548. In this it is stated:

"En la provincia de la Cibdad sobre dichas provincias comarcanas se usan y tratan entre los naturales en moneda de metal en muy gran cantidad, de lo cual quitándose que los dichos naturales no la hagan, correrá y valdrá entre ellos la que V. S. I. ha mandado hacer y correr en la Nueva España, y en la hacer los dichos naturales reciben notorio agravio, ansí indios como españoles, en la controlación de la dicha moneda, de lo cual V. S. será informado siendo servido."[3]

Within the object illustrated by Tenorio, fig. 18, the following informations are given:

"Esta es la forma de moneda de cobre que se usaba en la Nueva España, que es la que se declara en el memorial. Valían cuatro de éstas, nuevas, cinco reales, y desqués, siendo gastadas un poco, no las querían recibir en precio alguno, y venían á valer diez por un real, para tornarlas á refundir, y si había agravio ó no, de esta manera se puede atender."[4]

Other authenticated instances also exist as to objects of this kind having been used as money. With regards to this, Torquemada writes: "En otras usaban mucho de

1a Mason 1929: 178. [2] Beyer 1920: 172—173. [3] Medina 1912: 563. [4] Medina 1912: 562.

Digitized by Google

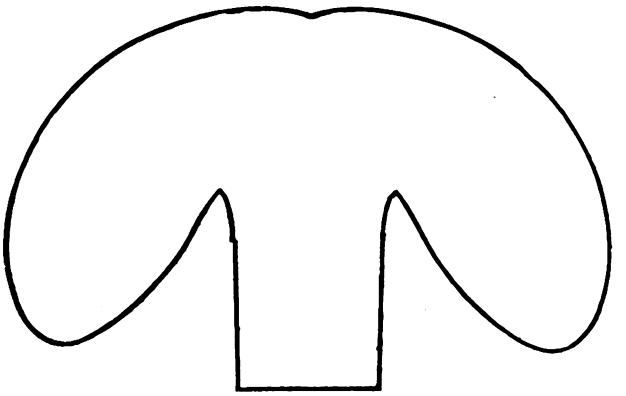


Fig. 18. Object of copper. From a document of 1548. After Medina, 1912, p. 562.

unas Monedas de Cobre, casi de hechura de Tau T. de anchor de tres, ó quatro dedos, y era planchuela delgada, unas mas, y otras menos."[5]

Confirming statements are found in Clavigero: "La quarta, che più s'accostava alla moneta coniata, era di certe pezze di rame, in forma di T, la quale s'impiegava per le cose de poco valore."[6]

But even the Mayas of Yucatan, among other things, used copper objects as standards of value: "La moneda de que usaban, era campanillas y cascabeles de cobre, que tenían el valor, según la grandeza."[7]

The author also expressly states that copper axes entered the country from Mexico ("Nueva España"). According to the investigations carried out by Phillips the "metal objects as have been claimed by the Second Empire may be the copper tools or implements made from the Copper of Oaxaca".[8] In Michoacan, copper was used as a standard of value in the form of different kinds of tools, and there also occur T-shaped objects very similar to those of Oaxaca.[9] In a small adobe building near Xaaga, east of Mitla, Saville discovered a cache of "axes" of the kind in question,[10] and an earthenware jar discovered near Monte Alban was found to contain 276 objects of this type.[11]

Objects resembling this axe money are also known from South America where they — known as "tumis" — are either of copper or of bronze.[12] Tumis are found both in Peru, Bolivia, and northwestern Argentina, as well as, although very sparingly, in Chile. In South America the northern limit of their distribution is the coast of Ecuador. The points of correspondence are so palpable and tempting that they have by some writers been accepted as proofs of trading intercourse having actually existed between Ecuador and Central America.[13]

An axe-shaped object of this kind, which I bought while on a visit to Mitla in 1932, I have had chemically analysed. It then appeared that it consisted of almost

[5] Torquemada 1723, vol. 2: 560. [6] Clavigero 1780, vol. 2: 166. [7] Cogolludo 1688: 181. [8] Phillips 1925: 557. [9] Seler 1908: 99. [10] Saville 1909: 160. [11] Medina 1912: 563. [12] Nordenskiöld 1921. [13] Verneau et Rivet 1912: 274.

Digitized by Google

electrolytically pure copper. The objects of this kind that were examined by Arsandaux and Rivet were of "cuivre pratiquement pur", and the same was the case with other copper objects from Oaxaca that were examined by them. Some objects, however, consisted of alloys of copper and tin, or lead.[14]

Seler had a copper axe from Tlaxiaco, in Mixteca Alta, subjected to chemical and metallographical examination which produced remarkable results.[15] The axe was found to consist of copper with an admixture of zinc and silver, together with small quantities of different metals and other substances, most properly describable as impurities. When next tested for hardness it proved to be hardest at the cutting edge, and that there was a great difference between this and other portions of the axe. Metallographical analysis showed that the axe had been cast in a mould, and that subsequently the edge had been cold-hammered, whereby it had been given greater hardness. By cold-hammering objects of copper can be made as hard as if made of bronze. Excellent results are obtained by cold-hammering bronze:

"An addition of 5 % of tin to the copper increases the hardness, as determined by Brinell's method, from 45 to 50 up to about 70, an additional 5 % of tin increases the hardness to about 85... By cold-hammering the hardness of copper and bronze can be increased to 2½ to 3 times as high a value, expressed in Brinell units, the increase of hardness being here dependent, of course, on the degree of coldhammering."[16]

According to Martínez Gracida, and Léon, the Zapotecs possessed the knowledge of gilding objects of copper or silver.[17] These authors suppose that this was done by coating the object with an amalgam — gold mixed with mercury — and then subjecting it to heating. The mercury then volatized, leaving behind it the gold in the form of a thin film. This method, known as fire-gilding, was also employed in the Old World, and was even in our days used by goldsmiths in all parts of the world, although it has by now been supplanted by electro-gilding. That this complicated method (fire-gilding) was independently invented in America I think no one is likely to deny. But it has also been maintained that the objects in question consist of an alloy of gold and copper, and that some sort of acid was employed, which reduced the copper and thereby enriched the gold at the surface, which was then polished and consisted of gold foil. Oviedo states that in Central America — "Tierra-Firme" — the Indians also knew how to gild copper. For the performance of this operation, which was wrapped in great secrecy, certain herbs were needed.[18] These herbs probably contained some sort of acid. Similar procedures were employed in Colombia and in Chiriqui.[19]

In a grave at Mitla (No. 4) examined during the excavation season 1934—35 were

[14] Arsandaux et Rivet 1923: 81. [15] Seler 1908: 533—536.

[16] Nordenskiöld 1921: Appendix A, pp. 173—181. Axel Hultgren, An examination of the hardness of 9 bronze implements from Peru and Bolivia, submitted by Baron Erland Nordenskiöld. Cf. Clément 1932.

[17] Martínez Gracida 1897: 433; León 1900: 17. Cf. Wichmann 1885. [18] Oviedo y Valdés 1851, vol. 1: 189.

[19] Holmes 1887: 12; Créqui-Montfort, Rivet et Arsandaux 1919: 556—558; Arsandaux et Rivet 1921: 263; Rivet 1921: 233—234; Lehmann 1925: 177—179.

Digitized by Google

discovered two gold beads which from a technical point of view are exceedingly interesting.[20] Caso is firmly convinced that they have been gilded by the mercury method. The earthenware core was coated with amalgam of gold and mercury. In the heating process the latter substance evaporated and left the gold behind it in the form of a thin skin. On Juan de Grijalva's expedition in the year 1518, of which the main motive was unequivocal greed of gold, the Spaniards obtained by barter a quantity of gold beads from the Indians on the isthmus of Tehuantepec. Great was their dismay when they found that "the beads were valueless".[21] It may be accepted as certain that those beads were merely gilt. On the very voluminous list of "the barter" that was got by Grijalva are also specified gilded beads of the type just referred to.[22] Similar beads have apparently been recovered at archaeological researches in Tarascan territory, near Jacona in the state of Michoacan.[23]

Beads consisting of a clay core coated with gold are also known from Rio Ulua, Honduras.[24] The golden skin only measures about one-twentieth of a millimetre in thickness, and therefore cannot have been applied in any other way than by the amalgam method. In Peru it was occasionally practised to fake up gold, and even silver, by in this way plating copper or bronze with those precious metals. Some objects carry a thin film of gold, while others are more thickly coated. In the latter case a mechanical process is possibly indicated, i. e. plating.[25] The thin film may safely be put down as the result of fire-gilding. Cinnabar was in ancient times largely used as a colouring agent both in Mexico and Peru, and out of this substance the Indians may be supposed to have extracted mercury.[26] Orchard has carried out exceedingly interesting experiments with the object of first extracting mercury from cinnabar, and then to fire-gild. He used appliances of the most primitive character, but nevertheless obtained excellent results.[27]

At the researches that were carried out in the excavation season 1934—35 at Mitla there was, as already mentioned, discovered a grave (No. 5) in which, among other things, was found a small iron plate.[28] The grave in question no doubt dates from the time when the Mixtecs were in possession. The chemist, connected with the Instituto de Geología, Universidad Nacional de Mexico, that analysed this object reports on it as follows:

Insolube	poquísimo
Fierro	bastante
Aluminio	poco
Azufre	bastante
Carbón	muy poco

Unfortunately the above analysis cannot, however, be considered satisfactory. To the metallurgist, a quantitative analysis would have revealed the metod by which the

[20] Caso 1936:9. [21] Díaz del Castillo 1908, vol. 1:62. [22] Saville 1920:16—17. [23] Plancarte 1893:79—84. [24] Orchard 1929:55. [25] Cf. Bergsøe 1937, 1937 a. [26] It has been stated that mercury in its pure state has been found in graves in Copan (Maya Research, vol. 2, 1935:400). [27] Orchard 1930:473. [28] Caso 1936:10, 34.

Digitized by Google

iron was produced. The statement that the iron contained a considerable percentage of sulphur is not by itself of any very great value as it merely indicates that the metal was extracted by a primitive method.

As already mentioned in the foregoing, in a publication of his that has recently appeared, Lothrop has — seemingly on very good grounds — supposed that certain of the golden objects recovered from Tomb 7 on Monte Alban, were manufactured in Peru and had been transported all the way to Mexico. The same also applies to objects from Zacualpa, Chichicastenango, Guatemala.[29] In regard to a gold disk found in a tomb at the last-mentioned locality he says:

"From what has been said we come to the conclusions that the Zacualpa disk could not have been made in Mexico, Central America or northern South America; that it was made somewhere in northern Peru; that it was manufactured at a time and in a place where the ancient art of Chavin still persisted until the Middle or possibly the Late Chimu styles had arisen and the two could blend."

An analysis of the ages of the Peruvian cultures, based on results arrived at by different scientists, further enables him to date the object in question approximately to the Ninth or Tenth Centuries A. D.

Of very great interest is the circumstance that in the tomb were found objects whose presence gave rise to the conclusion "that the tomb represents the final phase of the Maya Old Empire period. They also indicate contact with . . . the Teotihuacan culture of Mexico and with the Zapotec or Mixtec of Oaxaca". The objects from Oaxaca consisted of one axe and some ornaments, all of copper. The age of the grave he sets down as dating, approximately, from 10.5.0.0.0. in the Maya system. According to the correlations of Spinden, of Goodman - Martínez - Teeple, of Thompson and lastly Vaillant, 10.5.0.0.0. may correspond to A. D. 670, 930, 1190, or 1450.

It has long been accepted as a fact that the art of working metals was independently invented in South America, and that it reached Central America and Mexico at a comparatively late date.[30] It was only in a very late period that bronze made its entry, "as bronze presumably only in Incaic times became known on the coast of Peru".[31] Prior to this, gold and copper had become known, although even those metals cannot with certainty be shown to possess any very great antiquity. "The use of plating, presumably with the aid of mercury, is definitely established in the Middle Chimu period",[32] and would therefore seem to have been introduced into Mexico as late as the Ninth or Tenth Centuries.

Such as, peradventure, are inclined to doubt the possibility of such importation of metal objects from Peru into Mexico, will before long be able to obtain definite evidence for or against. Geochemistry, a recent auxiliary to mineralogy, will afford help on this point and throw light on this kind of questions. By means of geochemistry it is possible to establish to the millionth part of one per cent the components

[29] Lothrop 1936: 67 seq. [30] Rivet 1921; Arsandaux et Rivet 1921; Arsandaux et Rivet 1923; Clément 1935.
[31] Nordenskiöld 1931: 59. [32] Lothrop 1936: 68.

Digitized by Google

in a given substance. It has, for example, been shown that the copper contained in an ancient Roman coin originates from such-and-such copper mine, which is geochemically identifiable from its characteristic combination of elements in regard to the impurities occurring in copper. New and unsurveyable fields are hereby opening up to our vision.

Religious conceptions and social organization.

Our knowledge of the Zapotecs' ancient religion, ceremonies and pantheon is founded on works composed by Roman Catholic priests, such as Juan de Córdova in the 16th century, Francisco de Burgoa and Gonzalo de Balsalobre in the succeding century. A great deal of the ancient religious conceptions were tenaciously surviving during the colonial era in spite of the monks' zealous exertions towards orthodoxy on the part of their flocks.[1a] We have, for example, Father Burgoa's description of a purely pagan religious feast which took place in the strictest secrecy and was only discovered by accident. Those who took part in it were subjected to severe examinations, thanks to which it can be seen that even as late as 1652 paganism was still flourishing among the Zapotecs.[1] In the year 1700 another secret heathenish assembly was found out, and numerous examples exist of ancient religious notions having survived into our own times.[2] The enormous head-dresses of bright plumes that still are used by performers of religious dances, cf. fig. 19, are direct descendants of pre-Spanish ceremonial dresses. Translated into clay they occur on the funerary urns.

The Zapotecan pantheon contained numerous members, although it was naturally not of such a motley character as that of the Aztecs who, like the ancient Romans, incorporated the deities of subdued peoples with their own. Seler has analyzed the early statements — often vague and ambiguous — and has by comparative studies endeavoured, so to speak, to develop the pictures of the various deities and their functions.[3] It is only in certain cases that by later works — mainly archaeological fieldwork — it has been possible to supplement his version.

The Zapotecan priests were strictly organized and divided into different classes. The high priests acted as intermediaries in more important cases between the gods and the people, foretellers of future events, and the like. Priests of inferior rank were charged with the running of the temples and all that pertained to the cult, the performance of sacrifices, etc. Human sacrifices were practised, although not by any means to the same extent as among the Aztecs. Sacrifices of animals and the fruits of the earth were however common, and were accompanied by the burning of incense consisting, apart from the customary copal which is still being used to this day, also of tobacco. The gods of the Zapotecs were well pleased with him that offered his own blood, which he drew from his tongue or ears. Offerings of that kind consti-

[1a] Andrade 1912: 287 seq. [1] Seler 1895: 25. [2] Seler 1904: 88 seq.; Starr 1899 a. [3] Cf. Seler 1895: 7—8, 23 seq.

Digitized by Google

tuted a trait common to the more high-cultured peoples of ancient Mexico, among others the Mayas and the Aztecs.[4] The rites connected with offerings in general, i. e. not exclusively blood-sacrifices, also presented many points of correspondence with the customs prevailing among the Aztecs.

Arrayed in different vestments and hidden behind different names, so to speak, many of the deities of the Aztecs dwelt among the Zapotecs. To a certain extent it may be supposed that this circumstance is due to both peoples harking back to a pantheon common to all Central America, the members of which subsequently developed differently in different parts. The Zapotec conception of, e. g., a creative deity such as it is explained in Father Córdova's dictionary, is of a very archaic character. A funerary urn illustrated in the following, pl. 4, apparently represents a deity corresponding to Ueueteotl, the Old God, of the Aztecs. Images of this god have been found under circumstances that point to great antiquity, and he appears to be the oldest identifiable of the Mexican deities. But Aztec elements may of course also at a very late date, during their era of colonization — immediately prior to the arrival of the Spaniards — have been incorporated with the religious notions of the Zapotecs.

In view of the great interest in astronomy taken by the peoples of Central America which found expression in their calendar, it can be no matter for surprise that the Zapotecs appear to have worshipped the sun, the moon, certain planets — especially Venus — and also various fixed stars, such as the Pleiades. Córdova relates that an eclipse of the sun caused extreme fear among the Zapotecs, who regarded it as a portent of the end of the world. Believing that dwarfs had been created by the Sun God, at the eclipse they sacrificed all persons of small stature, thinking to placate the god by giving him what were his proper belongings. Lunar eclipses, too, were regarded as mysterious and ominous messages from the gods portents foretelling the early decease of the highest ladies of the land.

The Rain God — Tlaloc, among the Aztecs, Cocijo, among the Zapotecs — naturally played a very important part with them, just as is the case with all peoples whose weal and woe is entirely bound up with the harvest of the soil. In exceedingly numerous instances he, or priests or other persons arrayed in his emblems, appears on funerary urns. Another deity, known as Xipe, who, according to Sahagun, originally belonged to these parts, but also was accorded his customary worship among the Aztecs,[5] has so far in his reputed home country only been found in two pictorial reproductions on Monte Alban. Córdova enumerates a number of other gods with defined functions, such as the lord of poultry, the god of merchants and the lord of wealth, the god of poverty and misfortune, the god af desire, the god of dreams, the god of omens, and the god of the underworld.

Father Córdova also mentions a special god of harvests, Pitao-Cozobi, "dios de las mieses", who was apparently closely connected with the rain god. It is possible that certain representations of Cocijo may have referred to Pitao-Cozobi. It is however

[4] Nuttall 1904. [5] Cf. Linné 1934: 172 seq.

Digitized by Google

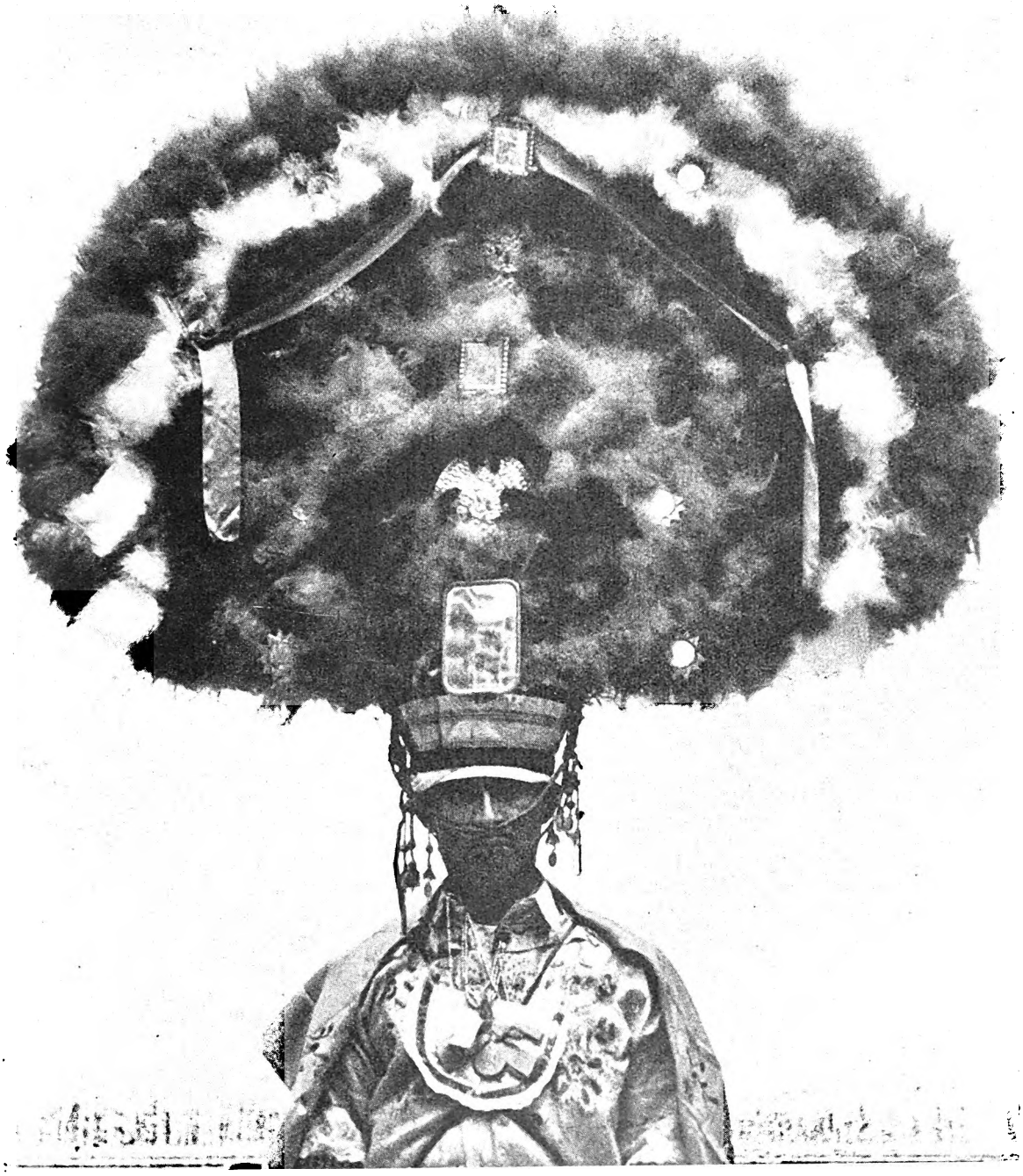


Fig. 19. Zapotecan dancer with head-dress of bright plumes. Cuilapan, Oaxaca.
Courtesy of Miss Bodil Christensen.

Digitized by Google

more probable that some effigy urns, pl. 13, which are decorated with maize cobs, are representations of this harvest deity. Exceedingly interesting is Father Burgoa's description of a ceremony that was performed at the village of Quiegolani (distrito de Yautepec) for the purpose of ensuring a good maize harvest:

"At the time of harvesting in this village, which was famed throughout the province for the quantity, size, and superiority of its maize, the ear which was the largest, fullest, and most conspicuous for its beauty and the perfection of its kernels was selected, and this was honored with demonstrations of all kinds; for they said that in it the god was present who had furnished them with everything besides, and, as the abode of the god, they, with much burning of incense, adressed worship and prayers to it while they placed it upright on an altar and honored it with songs and merry dances. They dressed it in clothes, which were made according to its measure, and hung upon it small green stones which were jewels, and after they had offered it sacrifice it was rolled in a white cotton cloth and thus preserved. When the season for plowing the land and planting the seed returned they notified and summoned the priests, and the foremost men of the village assembled in the house where the gaily decked ear of maize was kept, and after repeating the heathenish ceremonies in its honor they begged its permission to carry it out to watch over the fields; and then a priest took it, rolled it in a clean deerskin which he had brought with him for this purpose, and they all went together to a place in the midst of their planted fields, where they had made for it of stones an ovenlike hole in the ground, and in this they placed it, with much burning of incense, and earnestly besought it to take under its gracious protection the seeds of these poor men who hoped for their means of subsistence at its hands, and they covered the place (with earth) so that they could see it from afar without anyone daring to approach. If the year was a fruitful one, they took it out with great solemnity at the harvesting of the crops, thanked it for the liberality with which it had given them food, and the ear of maize, which had become entirely moldy from the dampness, was divided among those present as a relic and a sacred object."[6]

The conception underlying this ceremony occurs in many places of the world, even in Swedish folklore. Fertility, more or less ostensibly personified as a deity, takes up its abode in the principal product of the field, the last sheaf, or the like. By preserving this object and subsequently returning it to the field, this mystical power is kept latent until the next harvest.

In the Zapotecan country small earthenware heads have been found, which appear to represent deities. Of these, perhaps the most remarkable is a type closely allied to Ueueteotl, the Old God, known in the Valley of Mexico ever since the Early Cultures, which has just been referred to. Among the others Seler holds that he is able to distinguish the earth goddess and perhaps a war god. It is however remarkable that the majority of the extremely characteristic and well-known gods, such as Quetzalcoatl and Tezcatlipoca, who appear in the frescoes of the Mitla palaces do not occur among the archaeological finds from the Zapotecan area. This circumstance is presumably only to be explained either by the Mixtecs having painted the frescoes, or by their having come into being after the conquest of Mitla by the Aztecs in 1494, or that the deities in question were incorporated with the Zapotecan pantheon at such a late date that they had not had time to enter the consciousness of the Zapotecs.

[6] Seler 1904 a: 300—301.

Digitized by Google

As a matter of course it must be presumed that the people that erected gigantic architectural constructions like those on Monte Alban and at Mitla must have possessed a rigid social organization. Whether priests or temporal rulers assembled the energies of the people to bear on works of that description we cannot tell, owing to our defective knowledge of ancient social conditions. Having regard to the fact that the majority of the buildings are not of a profane character, and to the strongly religious inclination of the Indian mind, it seems that religious ideas must have provided the motive power. In support of this, Burgoa speaks of the great power and authority possessed by the priests. He also mentions that in Mitla, where the town-planning consists of rows of buildings surrounding rectangular courts, one building was set apart for the high-priest, another for the lower classes of priesthood, and a third for the king when he came on a visit, while a fourth was for chiefs of inferior rank, and warriors.[7]

In the introduction to his study of "Mexican kinship terms" Radin says:

"we know wretchedly little about the social organization of the Indians of either ancient or modern Mexico... It is only when we come to the Mixtec and Zapotec that we find a highly definite caste system (this is even definitely expressed in the language where a special set of personal pronouns exist only used when addressing one's superiors), and probably a clan organization. For the Zapotec there seems to be little doubt that a clan organization once existed."[8]

In a work of a more popular character the same author writes of the social system:

"Among the Zapotecs a king was at one and the same time both high-priest and sovereign. So great was the veneration in which he was held, states an early authority, that he was never allowed to touch the ground... Both the Mixtec and Zapotec country was divided into subdivisions ruled over by sub-chiefs directly subordinated to the king, and paying tribute to him. Land was inherited in the male line and was inalienable. Serfs worked the land and was apparently kept under strict surveillance by special officials. A specially privileged class, here as everywhere else in Central America and Mexico, were the merchants."[9]

Picture writing and calendar.

Like the Mayas, the Aztecs and the Mixtecs, even the Zapotecs had developed a system of hieroplyphic writing. Of the 14 pre-Columbian Mexican codices that have been preserved down to our times, a not inconsiderable proportion are supposed to have had their origin in Oaxaca, among the latter being a group, named after the most important one, the Codex Borgia, from the neighbourhood of the Zapotec country. Stylistically, the latter appear closely related to the Mitla wall-paintings.[1] But it has also been maintained that the Zapotecs themselves have contributed with codices, some of which are even pre-Columbian.[2]

Professor Caso, who has closely studied the script of the Zapotecs, is however of opinion that no Zapotecan codex exists.[3] His argumentation is simple and incontest-

[7] Seler 1895: 6 seq. [8] Radin 1931: 1—2. [9] Radin 1928: 156—157.
[1] Seler 1900: 126. [2] Lehmann 1905: 266—77; Noguera 1933: 18—19. [3] Caso 1928: 9—12.

Digitized by Google

Fig. 20. Head of clay from a funerary urn. Vicinity of Oaxaca City. (3/4) 23. 8. 401. A woman's head, because the hieroglyph, "j", forming the frontal decoration only occurs, according to Caso, on female figures.

able. Between the hieroglyph-carrying stone monuments, the stelae, of Monte Alban, Zaachila, Etla, etc., and the funerary urns there undeniably exists close resemblance and correspondence, and, as they have only been found in regions inhabited by the Zapotecs, they have always been ascribed to that people. As to this, it seems there can be no doubt. On the other hand, in the codices that are ascribed to the Zapotecs no points of correspondence, either as regards hieroglyphs or representations of gods, can be found with stelae or urns. Against this, however, they are allied to the codices of the Aztecs, and they are for the most part ascribable to the Mixtecs or to Oaxacan tribes influenced by the Aztecs. It does not seem reasonable that in the matter of works in stone and clay, for one thing, and drawings and paintings, for another, two different styles should be found among one and the same people. There is, however, one reservation that must be made against this line of reasoning. Urns and stelae may possibly date back to an earlier epoch, and the codices from a latter, during which the Zapotecs may have been intensely influenced by Mixtecs and Aztecs. The accounts from the time of the discovery referred to in the foregoing argue, however, against the latter supposition.

Attempts at the decipherment of the hieroglyphic writing of the Zapotecs is beset with exceedingly great difficulties because the literature affords no clues whatever in that direction, contrary to what is the case with that of the Aztecs and the Mayas. Caso, as has been mentioned, has set himself to deal with this problem and

Digitized by Google

Fig. 21. Sculptured slab with hieroglyphs and two figures. Vicinity of Oaxaca City. (1/5) 23. 8. 178.

arrived at many important results, but it seems certain that no definite solution is possible until we are in the possession of a "key" of some sort.

The numerals are identical with those of the Mayas: the first four integers are represented by dots, while a bar, or line, stands for five. No higher values than 3 dots and 2 bars, i. e. 13, have ever been found recorded. But seeing that certain of the hieroglyphs must be day signs, no value above 13 is needed for expressing, by means of 20 day signs, the period of 260 days, i. e. the tonalamatl, which was the most important — the fundamental — time-period among the peoples of Mexico and Central America.[4] Peculiar to the Zapotecs is that the 260-days period was divided in 4 groups, each numbering 65 days. The four cardinal points played an important part both in the Mexican and the Mayan Calendars, and this dividing up of the tonalamatl in four parts is connected with it. Each of these periods was governed by the sign which gave the name to its first day. These four ever successionally recurring powerful signs and days were by the Zapotecs called Cocijo, or Pitào, and, as they had been invested with a divine character, various kinds of offerings were made to them. Pitào means "the great one", or "the god". Cocijo, on the other hand, is the name of the Rain God, a deity which both among the Aztecs and the Mayas was connected with the four points of the compass, and by these varied his character.

Each one of the 65-days periods was for ceremonial reasons divided into 5 sub-

[4] Apenes 1936; Larsen 1936.

Digitized by Google

divisions of 13 days named Cocij. The absence of higher numerals than 13 shows however that the Zapotecs did not fix the place of a day in a 20-day month of a year of 365 days. But it is thereby not precluded that, as was the case with the Mayas, certain hieroglyphs were used for denoting higher numerals. The circumstance that the 260-day period occupies a dominating place instead of the year of 365 days may either mean that the Zapotecan calendar was of a very ancient type, or that it had undergone a specialized development for exclusively religious uses. Although the latter alternative appears the more probable, it may however be pointed out that the day-names are exceedingly ancient in form, and hardly intelligible in the language that was spoken at the time of the conquest.[5]

Córdova — who was an excellent authority, among other things as regards our knowledge of the Zapotecan calendarial system — states that 20 day-signs were used, and that they were represented by different animal figures, but we are left in ignorance as to their identity.[6] It further appears from Córdova's account that the 20 day-signs not only were connected with the numerals 1 to 13, as was the case among the civilized peoples of Mexico and Central America but also that "the combination of the signs with the numerals became incrusted, as it were, upon the form of the words serving as the day names, so that in every case there can be separated from the name of the word a prefix, which is about the same for all signs joined with the same numeral".[7] On the basis of various statements given by Córdova, Seler goes on enumerating the 20 day-signs. While it should be possible to identify some of these (crocodile, deer, dog, monkey, etc.), others are non-material, or abstract notions that are difficult of deciphering (night, mother, narcotic, cold, etc.). That in essence these names for the 20 day-signs agree both with those of the Aztecs and of the Mayas is an incontestable fact. Another important fact, resulting from Seler's analysis, is that the twofold sense often possessed by the Zapotecan day-names is capable of explaining the seemingly essential differences between the names of the Aztecs and the Mayas for some particular day-sign. From this he considers it practically safe to conclude that, as far as the calendar is concerned, the Zapotecs played the part of intermediaries between the Aztecs and the Mayas, or vice versa. Unless one might even go the whole length of this theory and suppose that the Zapotecs created the calendar and subsequently passed on the knowledge of it to both the Aztecs and the Mayas.[8] It should however be pointed out that it is only in very few cases that the hieroglyphs of the latter peoples agree with those of the Zapotecs.

Even by other paths Caso has arrived at similar conclusions as regards the importance of the Zapotecs in the evolution of the calendar, the proudest achievement of Ancient Mexico in the realm of abstract reasoning. He emphasizes, inter alia, the following:

"Encontramos que algunas tribus de Oaxaca (cuicatecos y zapotecas), tenían un sistema de llamar los años, semejante al sistema maya del Imperio Viejo... creo que fué en la región de

[5] Seler 1904 b: 36. [6] Córdova 1886: 203. [7] Seler 1904 a: 272. [8] Seler 1895: 22; 1904 b: 54—55.

Digitized by Google

Oaxaca, en donde se inventó lo que es el más genuino y perfecto achevement de las culturas indígenas de América: el Tonalamatl ... Pero principiar los años por los signos correspondientes a Ehecatl, Mazatl, Malinalli y Ollin, no es la única semejanza que existe entre el cómputo maya del Imperio Viejo y el cómputo zapoteco. Mayas y zapotecas sólo tomaban en cuenta el tiempo transcurrido y no computaban los períodos de tiempo que estaban corriendo."[9]

Like the sculptured stone tablets that are here reproduced, figs. 21 and 26, the stelae that Caso illustrates in his essay just referred to, are decorated both with human figures and hieroglyphic signs. From various sources Caso has brought together an imposing number of representatives of the Zapotecan apparently populous pantheon, and gives their names and spheres of activity. But only few of them seem to have names connected with the calendar. It is, however, not to be doubted that many combinations of signs and numbers on the stelae denote the name of the figure next to which they are written. As is well known, the Aztec child was named after the day on which he was born, in accordance with a general Mexican custom.[10] What the human figures are intended to represent can, in most cases, only be guessed at: chiefs, priests or gods.

Caso has compiled a classification of the day-signs, i. e. such hieroglyphs as appear in connection with numbers. In this he has obtained no less than 26 groups, some of which show numerous variations of the figure. Seeing that the day-signs are only 20 in number, it must be presumed that certain groups are different variants of the same notion, and it is possible that others are Mixtecan hieroglyphs.[11] Certain of these Zapotecan day-signs also appear on the funerary urns, as noted in the descriptive text appended to the plates, cf. also fig. 20. In some few cases it is possible to discern faint points of resemblance to Mayan signs, but on the whole it must be concluded that the day-signs in question were created by Zapotecan scribes.

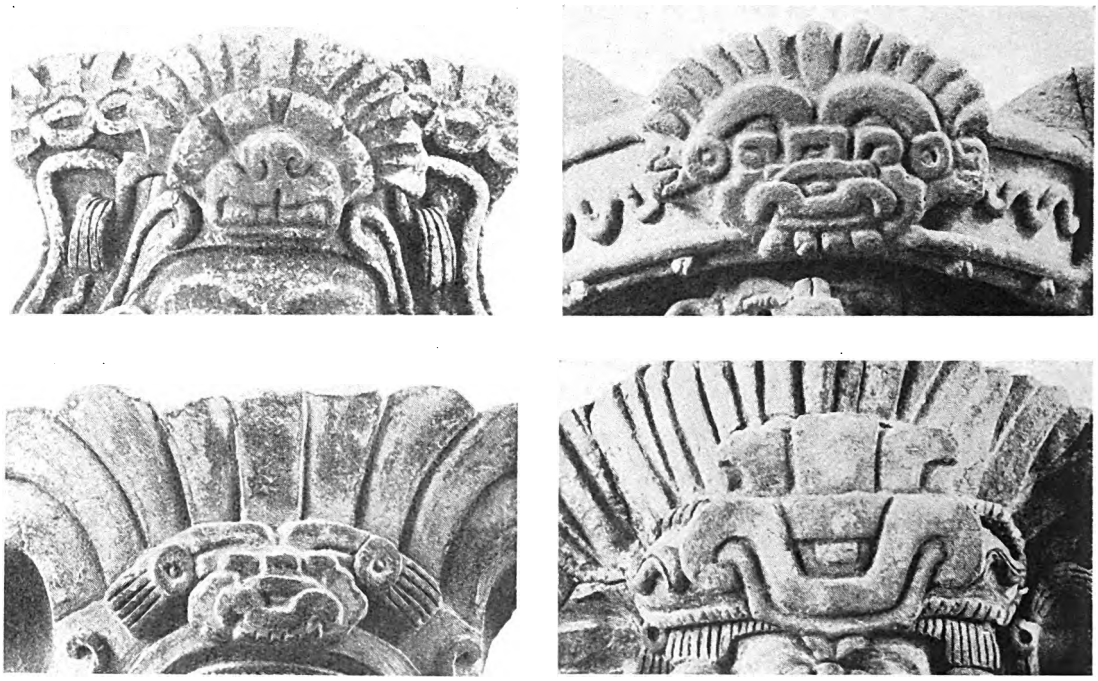
But even other signs of chronological significance are found in the inscriptions. The year-sign constitutes a more or less extended stylization of the face of the god Cocijo. This god, the Rain God, is, as mentioned, the Zapotecan counterpart of Tlaloc of the Aztecs, and his characteristic face is an exceedingly common decorative element on the funerary urns. A large proportion af the urns may, besides, no doubt be accepted as directly representing the god, or else persons masked in imitation of Cocijo. The greater part of the face is covered with a mask "with serpentine attributes, in which the fundamental characteristic seems to be an ornament over the nose made by a disc and a trapezoid, which in the Mexican codices is the representation of the turquoise nose-plug. This adornment acquires greater importance as the glyph is

[9] Caso 1928: 58—59.

[10] An attempt at extracting from pre-Columbian codices the life-history of a private individual has been made by Zelia Nuttall (1902, Introduction, pp. 20 seq.) and J. Cooper Clark (1912; 1913: 135—136). The name of the individual in question was "Eight Deer". Many incidents in his life are to be found in six codices and at Monte Alban has been discovered a stela carrying a figure in relief with the name-glyph "Eight Deer". Cooper Clark's conclusions strike one as being somewhat hasty: "It is possible that he may be the hero of the codices. In this case he might have been a Zapotec ruler". Spinden has recently also made an analysis of this kind, in which he carries the method even further. He goes the length of believing himself able to establish the chronological sequence of the different episodes in the lives of the individuals (Spinden 1935).

[11] Caso 1928: 27—44.

Digitized by Google



Figs. 22—25. Details of funerary urns. Frontlets showing a stylized jaguar's head. Figs. 22: 23. 8. 250, 23: 23. 8. 226, 24: 23. 8. 249, 25: 23. 8. 236.

simplified, so that I believe it must be the fundamental part of the sign".[12] From Caso's studies it appears that in all probability the Cocijo head does not represent the tonalamatl, but the year of 365 days, and that it constitutes the origin of the Mixtecan and the Aztecan sign for that period of time.[13]

The figures of the funerary urns are often wearing a frontlet in the form of a stylized jaguar's head, or rather a jaguar's face. These attributes possibly have some connection with the Rain God. From the details here reproduced it is possible to observe a certain development of this emblem, starting with the fairly naturalistic, although incomplete, representation seen in fig. 22, via a more pronounced stylization in fig. 23, where all the elements are however present, and up to the purely ornamental figures, figs. 24—25.

Spinden, who a priori supposes not only that the culture of the Mayas was the oldest one of these parts but also that they were the "purveyors" of all sorts of higher culture elements to the other peoples inhabiting Mexico and Central America, expresses as his opinion that "Tlaloc, the Aztecan Rain God, is shown to be derived from a Mayan divinity of annual rains, associated with the imbricated year symbol". His illustrations of Tlaloc heads from Copan, Yaxchilan, Piedras Negras, as well as from Uxmal and Chichen Itza, not only agree remarkable well with each other under the Old and the New Empires of the Mayas, but also with their Zapotecan and Aztecan counterparts.[14] But Cocijo probably also possesses a counterpart in the deity most fre-

[12] Caso 1932 b: 469. [13] Caso 1928: 53. [14] Spinden 1924: 98; figs. 32—33.

Digitized by Google

Fig. 26. Sculptured slab with hieroglyphs and a figure standing on a stairway-like sign. Vicinity of Oaxaca City. (1/6) 23. 8. 177.

quently depicted in the codices — the one which is generally referred to as "B" — which is unmistakably one of the most important members of the Mayan pantheon.[15] He also appears to have been a universal deity, but of especial interest in the present connection is that his face resembles that of Cocijo, that he is associated with the four points of the compass, with maize, and with the serpent. It it possible that he is identical with the rain god known as Chac, and he is never associated with symbols of death, but is clearly a deity of life and creation.

Beside Tlaloc-Cocijo-Chac there are other elements common to the Aztecs, Zapotecs and Mayas that are of interest in this connection. Thus, for example, the name for "month" is throughout the word for "moon", and "day" is in the three languages

[15] Schellhas 1904: 16—19.

Digitized by Google

expressed by the word for "sun". Certain points of correspondence can undoubtedly be shown to exist between the hieroglyphs and figural representations of the peoples just mentioned. Spinden[16] has side by side depicted two strongly stylized snake's heads from Palenque and Monte Alban, respectively, which have much in common. Beyer,[17] on the other hand, has pointed out similarities between the Teotihuacan culture and that of the Zapotecs.

Quite a large proportion of the hieroglyphs found on stelae are unaccompanied by any numbers. We do not know their significance, but it seems probable that they are of an ideographic or phonetic character. On the majority of stelae and relief-carrying stone slabs there is down at the bottom found a stairway-like sign on which the large figure is placed, fig. 26. This presumably denotes a place-name.

The above samples of our fragmentary knowledge of the Zapotecan hieroglyphs and calendarial system are occasionally capable of providing some vague explanation of the funerary urns. But it does not seem likely that for the present we shall be able to proceed much further towards a more complete knowledge of the character and significance of the figures in question. For getting beyond the narrow limits of our present-day information additional material is needed, and this should be acquired through practical, scientifically conducted excavations in the Zapotecan area, as well as in neighbouring regions. By the help of comparative studies not only involving Mayas and Aztecs, but also the Teotihuacan culture, it may be possible to arrive at a deeper understanding of the funerary urns, those bizarre testimonies of the pantheon and the religious notions that were peculiar to the Zapotecs.

Graves and funeral customs.

Along with the brief descriptions of Monte Alban and Mitla, account has been given of some of the tombs discovered in those localities, and of their architecture and contents. As regards architecture, two main types occur: rectangular grave-chambers with roofs that in cross-sections are shaped like ∧ and consist of flat stone slabs, and cruciform chambers with flat roofs. Small tombs of the rectangular type frequently also have flat roofs. Some of the cruciform type in and around Mitla may, by reason of their excellent construction and exquisite ornamentation, be counted among the noblest architectural monuments of ancient Mexico. The majority of the tombs found on Monte Alban belong to the first-mentioned category, while from Mitla a smaller number is known. In the latter locality, on the other hand, those of the cruciform type have reached their highest development, although they are also represented on Monte Alban. In certain cases both of these roof constructions occur side by side, as in the famous Tomb 7, where one chamber has an angular roof and the other a flat one. The rectangular grave-chambers are often provided with

[16] Spinden 1928: 156. [17] Beyer 1922: 555 seq.

Digitized by Google

three niches, one in the middle of each wall. Niches appear to have been attached with more and more importance, and may thus have given rise to the peculiar cruciform type.

Before Professor Caso began his excavations on Monte Alban and at Mitla, so exceedingly rich in results, a few Zapotecan graves had been opened by archaeologists but an immense number of them must have been plundered by treasure-seekers, if we may judge from the vast quantities of funerary urns that have been recovered.[1] Still greater numbers must naturally have been destroyed. But no doubt a great deal remains for archaeologists to do, seeing that the valleys of Oaxaca, Etla, and Zaachila are most plentifully scattered with mounds, "mogotes", which frequently contain graves.[2]

Already in 1897—98 Saville carried out excavations of "mogotes" near the village of Xoxocotlan, south of Oaxaca City in the Zaachila valley. In the neighbourhood are found the remains of Zaachila, or Teozapotlán, the ancient capital of the Zapotecs. The locality in question, which is situated ca. 3 $^1/_2$ km south of Xoxocotlan, is known as "Mogotes de Xoxo".[3] One of these mounds had already in 1886 been opened by Fernando Sologuren, a physician established in Oaxaca City.[4] He got together an exceedingly important collection of antiquities from Oaxaca, which was subsequently acquired by the National Museum. These mounds are constructed of earth, and some of them are arranged so as to enclose a large plaza, or square. At different levels were frequently found cement floors and adobe constructions, along with the grave-chamber. Their entrances were facing west, and closed with large stone slabs. In one of the mounds was found an extraordinary sort of arrangement, namely "a terra-cotta tubing or pipe" which from the interior of the mound extended some way outside it. It was placed underneath a cement covering and sloped downwards so that its outer end was fairly deep below the surface of the ground. It consisted of slightly conical tubes, with the narrow end telescoped into the wider one of the next section. The joints had then been closed up with cement. Remains of similar tubes have also been recovered on Monte Alban and at Zaachila. What purpose they served is unknown. Among the Iroquois the following custom obtained, and perhaps a similar conception underlies these tubular conduits: "A superstitious custom prevailed of leaving a slight opening in the grave, through which it (the spirit) might re-enter its former tenement".[5]

At the excavation of a mogote Saville found below the topmost cement layer three human skulls in a row facing west. Each of them was covered with a clay dish turned bottom upwards. Similar placing of skulls underneath earthenware dishes are, inter alia, known from Yucatan and Teotihuacan.[6] These were in all probability sacrifices. Saville also ascertained that clay vessels of different kinds must have

[1] Already some years ago the number of ceramical objects from the Zapotecs preserved at Museo Nacional de Mexico amounted to 1583 exhibits, of which 406 were effigy vessels (Noguera 1930: 274).

[2] Cf. Rickards 1910: 111—124. [3] Saville 1899. [4] Seler 1904: 335. [5] Greenman 1932: 292. [6] Linné 1934: 82.

Digitized by Google

been offered up. They were placed in a manner showing that they were thrown in while the mound was being made, probably as mortuary offerings. Mogotes of this type are known from many localities in the valleys of Oaxaca, Etla and Zaachila.

In 1902 Saville was carrying out researches in the valley of Cuilapan, some 3 km southwest of Xoxo.[7] As had been the case at Xoxo, he found the mogotes belonging to two different categories, temple mounds and burial mounds. Of the former he examined three, which proved to contain pyramid constructions and the foundations of old temples. In the burial mounds were discovered seven graves of the same type as at Xoxo. That is to say, they consisted of stone-built chambers with angular roof, and had been built roughly on the same level as the fields that now surround the spot. On top of the graves had then been built up a mound consisting of adobe bricks, earth and stones, strengthened by cement layers or floors, and undoubtedly covered in many cases by a dome-shaped cement surface. In one instance were found no less than three graves under a cement floor or platform slightly raised above the surrounding ground. Their entrances were facing north, west, and south. While all the graves at Xoxo were facing west, at Cuilapan less rigid views as regards orientation had evidently prevailed. In the graves were found, apart from skeletal remains, usual food and drink vessels, incense burners, and many personal ornaments of jadeite. At Xoxo, on the other hand, practically no personal ornaments were recovered, "but fragments of mosaic work, bits of shell, obsidian, jadeite, and hematite on stucco objects". Of great interest are the teeth that were recovered inasmuch as they prove that the custom of filling and inlaying the teeth was practised. The use of small portions of hematite for that purpose was here for the first time established. At both places were recovered lintels with hieroglyphic inscriptions, and fresco paintings. The latter were, however, of a style different to that of the well-known Mitla frescoes.

In no single case did Saville find funerary urns within the grave-chambers, while on the other hand simpler kinds of pottery, food vessels and incense burners occurred. This is all the more remarkable as urns were frequently found in the tombs on Monte Alban. In certain graves at Xoxo urns were placed in a niche above the entrance, and in one case fastened into the façade. As a rule they were placed in front of the entrance, and once Saville found five of them in a row on the roof. At Xoxo and Cuilapan they generally occurred in series of 5, in some cases of exactly identical appearance. In other series of 5, 4 were identically alike while one was different, while in others again 2 and 3, respectively, were identical. The same thing has also been observed at Monte Alban where, however, this production of series does not appear to have been quite so highly favoured. In Tomb 40 were found "quintuplets", 3 on one of the longer walls and 2 on the other, with their backs to the wall.[7a] Occasionally the urns of one and the same grave are all quite different.

[7] Saville 1909: 152—153. [7a] Blom 1934: 872.

Digitized by Google

Funerary urns only appear to occur in association with graves. What purpose they served we cannot tell. They have never been found to contain anything whatever. It is, however, possible that they were used as receptacles for offerings of food and drink on the occasions when the graves were visited, as will be referred to below. Saville has advanced an explanation of the urns' connection with the graves. According to his theory the urns "represent deities" whose business it was to guide the souls of the departed to the kingdom of death. This theory is in some degree substantiated by Savilles's observation that "in some instances the urns have been mutilated at the time of deposit by knocking off one or both hands". The same thing has been observed at researches on Monte Alban. The practice of "killing" clay vessels appears to have been a very general custom in Mexico. Killing appears to be a misleading term seeing that the operation in question is performed with the intention — or the supposed intention — of, by doing more or less damage to objects deposited in the grave, liberating their souls in order that the objects may be useful to their owner in the other world.

On Monte Alban it has been possible to establish that in certain cases primary burial was practised, although secondary burial was the rule among the Zapotecs. In the tombs examined by Saville — as in many on Monte Alban — the remains of the dead themselves, i. e. the skeletal parts, more or less decayed by the ravages of time, carried traces of red paint. This indicates that the burial ceremonies were not complete merely by depositing the body in the grave. Saville has collected the earliest descriptions of the customs and habits of the Zapotecs with his own observations in his field work, and give the following account of their funeral ceremonies:

"When an important person died, the body was placed in a stone chamber, dressed, and with various personal ornaments and objects belonging to the deceased. Food and drink were placed in or near the tomb to sustain the deceased on his journey to the other world. Once a year, for four years, his friends came to the tomb and made fresh offerings of food and drink. At the expiration of this time the flesh had decayed. Sometimes then the bones were gathered together and placed in niches, but sometimes they were allowed to remain on the floor. Often they were painted red. In some instances the metate and hand stone for grinding corn and the clay griddle for baking the tortillas or corn-cakes were placed in the chamber, with numerous incense burners. Then the door was sealed with a large stone, and usually objects of value, such as personal ornaments and mosaics, were thrown into the space in front of the vault. Probably some of the offerings of food, drink and incense were intended for the deities whose effigies (the funeral urns) were placed near by. A mound of earth, adobe bricks and stones was raised over the structure and sometimes covered with a dome of cement."[8]

Secondary burial is so widely distributed in America that it is not therefrom possible to draw any definite conclusions as regards cultural connections. Even in its most specialized form, secondary urn-burial, the practice has such a wide distribution and sporadical occurrence that the only possible conclusion capable of being formed is that the custom is of high antiquity.[9] Burning of the dead and depositing

[8] Saville 1904: 59—60. [9] Linné 1929: 213 seq.

Digitized by Google

the ashes in urns was largely practised among the peoples of ancient Mexico as well as by the Mayas. Among the Zapotecs this mode of burial does not seem to have prevailed, at any rate I have not found any authenticated instance of it in the literature.

As already has been mentioned, both in the next foregoing and in the description of the tombs of Monte Alban, the skeletal remains had been painted red. The occurrence of red paint in association with graves and funeral ceremonies has been observed in widely separated parts of the world, among peoples on different levels of civilization and from different epochs. The use of red paint and its significance among more primitive peoples has also supplied material for special studies.[10] Among the Zapotecs, as already mentioned, all sorts of objects were painted red: sepulchral urns, jadeite ornaments in graves, stone vessels, portions of walls, the mosaic-decorated head-trophy from Tomb 7 was painted red inside, small stone figurines under Stela 10 of Monte Alban, etc.

Among the attempts at explaining the great ritual importance of the red colour the following may be mentioned: It is the colour of blood, whose importance to man no one is ignorant of. Red must automatically become the symbol of fire, light, and the sun. Red has a stimulating effect even on primitive man, and therefore possesses aestetic importance. And lastly, from a magical point of view red plays an important part, because by using red paint it is possible to turn to account the powers lent by that colour: vitality, fire, light, etc. What notion underlies the red-painting of the bones in the Zapotecan graves is hardly possible of determination. This practice is connected with primordial conceptions, the analysing of which is no longer possible to us.

In one of the tombs at Xoxo, Saville found the skeleton of a dog.[11] It had been painted red. The presence of the canine skeleton shows that the Zapotecs, like other Mexican peoples, held the belief that the dog would guide its deceased master on his way to the kingdom of death. The dog's principal office would be that of a pathfinder when the soul of the dead had to cross the river that forms the boundary between the earth and the kingdom of death. A similar notion exists — or existed — among peoples of Central America, among the Cuna Indians of Panama, among Guiana tribes, and, strangely enough, among the Iroquois. This conception also being known from southeastern Asia, not only has a connection been supposed to have existed between the regions just referred to, but there has also been propounded the question whether this notion was imported via Bering Strait, or whether it was carried across the Pacific Ocean.[12] The dog immigrated in the company of man into America, and the pre-Columbian dog, such as we know it from Peru and Mexico, is closely allied to certain breeds found in the Far East.[13] It therefore appears possible that the notion of the dog acting as its deceased master's guide into the kingdom of death entered Alaska from the northern parts of the Far East together with man and the dog.

[10] Wunderlich 1926; Peabody 1927. [11] Saville 1899: 354. [12] Koppers 1930: 371, 394. [13] Noack 1915.

Digitized by Google

The age of the Zapotecan culture.

In the preface to the publication in which an account is given of the results of the Swedish expedition to Mexico in 1932, I have tried to compile a summary sketch of the progress of cultural development in America, particularly in Mexico.[1] The object of this was an attempt at analysing the foundation of the Teotihuacan culture. Even without stressing facts and results, a study of that kind only remains valuable for a limited space of time, seeing that the picture is ever being modified by the results of fresh investigations. Unassailable, clear facts in the form of stratigraphical excavations are still few, and their bringing into correlation with our chronology is only possible, as far as Mexico is concerned, if they are capable of being connected with the Mayan culture.[2] The course of events prior to that period, in so far as they can be ascertained, are not likely ever to be dated. Long before the different civilizations crystallized and attained independent development, or mutually fertilized each other, impulses ought to have been received from different centres, not yet ascertained, in Mexico, Central and South America.

In America the field-working archaeologist is frequently confronted with a most disheartening result: his investigations give rise to fresh problems, instead of solving the old ones. Professor Caso's researches on Monte Alban and in Mitla have, however, cleared up the main features of the development of Zapotecan culture from the time when it began, so to speak, to express itself in its own language and until the arrival of the Spaniards, cf. p. 52. Most probably these periods will by subsequent investigations be divided into subperiods.[3] This will, however, not affect the problem as a whole.

Caso's five successive periods have by Vaillant[4] been connected with the Mayan

[1] Linné 1934: 14 seq.

[2] As regards the Aztec culture, fresh possibilities for its study have already become available. Its peculiarly characteristic ceramics have, mainly on stylistic grounds, been divided into groups ascriable to a series of consecutive periods. "George C. Vaillant has discovered another key to the chronological relationships of Aztec pottery. Probably the most important ceremony of the Aztecs was that celebrating the beginning of a new 52-year calendrical cycle; then all idols were thrown away and replaced, the temple furnishings renewed and the temples refinished, and new fire was made. Dr. Vaillant has discovered and identified some of the dumps resulting from this wholesale discard. He reports, 'Our own work consisted of completing our excavations at Chiconauhtla, and in carrying out two subsidiary excavations at Nonoalco and another at Texcoco, in the group of mounds called Los Melones. The chief result of our work was to establish tentatively the correlation between Aztec pottery types and the ceremonial dumps at the close of each 52-year cycle. We have been able to isolate the dumps for 1507 at Chiconauhtla and Nonoalco, the dumps for 1455 at Chiconauhtla and Texcoco and a dump which must represent 1403 at Chiconauhtla. The discovery of fixed chronological points with which to link the elaborate stratigraphical series obtained by the various excavations of the Mexican Government and ourselves is highly significant, since by trade pieces and tentative cross dates of this nature from other regions there seems to be every evidence that the traditional historical material from Mexico is substantially correct even so far back as the legendary founding of the Toltec Empire. It is especially interesting to see how closely the architectural material from the diggings of the Mexican Government at Tenayuca correlates with our ceramic data from Chiconauhtla, Nonoalco and Texcoco insofar as these aspects of field archaeology are capable of reflecting the historical events detailed in the chronicles." American Antiquity. Vol. 2, No. 2, 1936, pp. 154—155. Cf. also Vaillant 1936 and 1937.

[3] Caso 1935: 29—30. Caso y Rubín de la Borbolla 1936: 4—20. [4] Vaillant 1935.

Digitized by Google

culture, by means of which a possibility of dating has been obtained. It is quite certain that for a long period Monte Alban was occupied by Zapotecs, a period which during its first epoch — corresponding to Ceramical Period I — attained a culture corresponding to the so-called Archaic, or Early Culture of the Valley of Mexico, but with a definite character of its own.[5] From this was subsequently developed the special, Zapotecan culture. On the whole, *Period I* may be called the Zapotecan archaic period.

Period II is characterized by correspondence with the culture complex known as the "Q culture".[6] Of the elements grouped as the Q complex that are found here may be noted spouted vessels and pot stands. While Q complex elements are often found under conditions of considerable antiquity in the Maya area, Caso is of the opinion that, for example, Tomb 77, which he dates to Period II, exhibits distinct relationship to the Mayan culture. Hereby some dislocation is caused in Vaillant's tables, which were compiled before Caso's material was published.

Period III. The following types are characteristic: bowls with low annular foot, flowerpot-shaped and cylindrical vessels, and twin-spouted jugs. The ornamentation has been incised prior to the firing (carved slate ware) and generally contains serpent elements. This period shows a high degree of correspondence with the pottery of the Teotihuacan culture, but also a strong generic resemblance to the ceramics (slate ware) of Yucatan. To this period also belong vases ornamented with Cocijo heads and the major part of the stelae.

Period IV, classical Zapotec, is characterized by ceramics of black or dark-brown colour, with little or no polish. Of these the most usual types are bowls with or without small conical feet, and incense burners with flat or rounded bottom and cylindrical handle. During this period funerary urns appear to have attained their highest development, and at the same time vessels in the form of jaguar feet make their appearance. Typical of the period would also seem to be jars with fresco decoration, although these also appeared earlier.

Period V stands quite apart from the preceding ones, which originate from Zapotecan settlement. During this, the last of the periods, the Mixtecs appear to have become established at Monte Alban and neighbouring places, such as Xoxo, Cuilapan, Nazareno, etc. Mixtecan ceramics are however only found superficially, indicating that their occupation was only of brief duration. The finds from Period V have been obtained on the slopes of the mountain, in ground outside the buildings surrounding the Main Plaza, an area which consequently must be supposed to have been deserted during that time.

[5] Professor Caso states however that "there may possibly be an epoch before the first of these, with very coarse (burda) pottery which we found at the base of the stratigraphic pits" ... American Antiquity. Vol. 2, No. 3, 1937, p. 229.

[6] Vaillant 1934: 90 seq.; 1935: 293. "It is supposed that they (the traits of the Q culture) represent survivals from an early Southern culture, distinct from the Archaic of Mexico", Lothrop 1936: 98.

Digitized by Google

The Mitla researches of 1934—35 have also yielded certain landmarks of chronological importance. Excavations in the South-side Group proved that the buildings at that spot were the oldest in the city. In the course of these excavations was discovered a grave corresponding to Period IV on Monte Alban, and another which is capable of being connected with Period III. Hence it follows that Mitla is of a considerably later date than Monte Alban. The architecture and contents of the newly discovered graves appear to prove that also Mitla was founded by the Zapotecs.

The above-mentioned periods, established by Caso, have by Vaillant been subjected to an attempt at dating, principally on the basis of their points of connection with the Mayan culture. This is however mostly to be considered as a by-product of his study of chronology and stratigraphy in the Maya area. In this study he has compiled different tables suggesting the interarticulation of the ceramic sequences in the Maya area with the various correlations of the Maya calendar. But these tables extend beyond the Maya area and also include Monte Alban and the Valley of Mexico.

Table 1 purports to show how the major ceramic sequences can be grouped into 6 periods, based on the distribution of various types of pottery. The earliest, Period 6, the Pre-Maya Period, has as its leading feature the Q complex traits. To it corresponds Monte Alban I and II. Monte Alban III Vaillant places level with the Maya Great Period; Monte Alban IV, with the Mexican Contact Period; V, with the Maya Re-occupation Period.

A simplified excerpt from Vaillant's tables gives for Monte Alban the undernoted approximate figures in centuries A. D., according to different correlations:

MONTE ALBAN, *Period:*	II	III	IV	V
Vaillant, Table 2	0—100	600—700	1000	1400—1500
,, Table 3	300	900—1000	1100—1200	1400—1500
,, Table 4	500—600	1000	1100—1200	1450—1500
,, Table 5	800	1100	1200	1450—1500

Table 2 is based on Spinden's correlation, and Table 3 on the correlation worked out by Thompson—Martínez—Goodman, which advances the Long Count dates approximately 260 years. The next one, Table 4, involves bringing the Long Count dates up another 260 years, but retains the Katun sequence of the books of Chilam Balam. In Table 5 the Long Count calendar has been moved up another 260 years in time.

Vaillant expresses no definite opinion on the question as to which of these tables should be accepted as the most correct one. At the critical analysis to which he subjects them — as a matter of course principally from a Mayan point of view — factors keep on cropping up in argument for or against. Table 2 is least in his favour, while there is much to be said for 4 and 5. Where Monte Alban is concerned it would appear, inter alia, that the stela cult was imported from the Mayas at the time of the

Digitized by Google

maximum spread of such dated monuments. The tables in question are, however, not accepted by the calendar students.

At the time when these tables were drawn up, the Monte Alban material had not yet been published. As early as Period II Caso records Mayan influence, in consequence of which that period should in all the tables be advanced in time. Characteristic of Period III is, among other things carved slate ware, one of the palpable links of connection with the Mayas. But in Vaillant's tables carved ware is listed among the elements characterizing the Mayas in Period 3, while he places Monte Alban III level with Period 4, Maya Great Period. Monte Alban III should therefore similarly be brought up towards Monte Alban IV.

What impresses one most as regards Vaillant's tables appears, however, to be the limited space of time that can be apportioned the Zapotecan culture for attaining the peak of its development. Fresh finds might possibly altogether upset hitherto accepted conclusions, and in his exploration of Zapotecan culture, Professor Caso has been able to produce results of extremely astonishing character.

Digitized by Google

PART III

FUNERARY URNS

Digitized by Google

Fig. 27. Couchant jaguar figure. Tuxtepec. 23.8.307.

Owing to the way in which the largest of Mr. Paulson's collections (Museum collection number 23.8.) was packed by the Mexican firm of forwarding agents that had undertaken its shipping to Sweden, a large number of funerary urns were badly damaged in transport. Beyond the re-fixing of broken-off portions, nothing further was for a time done about the urns.

Some of them have, however, latterly been restored by Mr. Gunnar Nykvist, of our Museum service staff, and this work will probably be carried on so far as time can be found for it. In this there will be no free-hand substitutions for missing parts, but as the urns are always built up in accordance with strictly symmetrical rules, a certain amount of reconstructional work can, however, be carried out without any risk, and thereby the value of the objects will be considerably enhanced from an exhibitional point of view. Here above is seen an example of reconstruction just completed, cf. pl. 31. These reconstructions are made in such a way that they may be removed without causing any damage to the object. All illustrations here given were made before any restoration work was taken in hand.

Digitized by Google

FUNERARY URNS

An outstanding feature of the Indian civilizations is their highly developed pottery, which in many cases entirely predominates among the products of utilitarian or artistic handicraft. Although the manufactures of the ancient Peruvian potters are in the front rank among the ceramics of all peoples and all times, those of several ancient Mexican and Central American peoples also occupy a prominent place.

Among ceramics of the latter category are the Zapotecan funerary urns, a number of which have been selected from the rich collections of the museum, and are depicted in the following. In their peculiar style they form a clearly defined class by themselves, both as regards general character and decorative details, within the range of ancient Mexican art, and they constitute the most typical relics of the old Zapotecan culture. In the same way as the Aztec pottery, or that of Teotihuacan, these urns represent "zonal fossils" where Zapotecan culture is concerned. In view of the fact that not only details in the figures of the urns, but also the urns themselves, recovered from different parts of the Zapotec country, show very close conformity with each other it is probable that their manufacture was centralized in certain localities. Microscopic investigation of the mineral components of the clay — petrographic analysis — should be able to solve this question.

Faint influences from outside may perhaps be discernible, but the urns must nevertheless be regarded as intrinsical products of the handicrafts of Zapotecan artists, who carried on, and developed, their work on the basis of a rigorously national tradition. Occasionally one glimpses manifestations of original, creative imagination, but this is restrained by strict religious observance, tempered, however, by supreme technical skill.

The numerically most important part of the Paulson funerary urns (Museum collections Nos. 23.8. and 31.23.) were found in the course of railway construction work near Oaxaca City. The most important ones derive however from other localities, which in each individual instance are given in the texts belonging to the plates. As already intimated in the Introduction in reference to the extensiveness of the Paulson collections, here are only depicted a limited number of such urns as for various reasons have been selected on account of possessing special interest.

Digitized by Google

SEATED FIGURE

Vicinity of Oaxaca City.

23. 8. 269.

Height 32.8 cm.

Regarding the use of the funerary urns we only know that they must have served some purpose connected with the funeral customs or the cult of the dead. Thus they are always found either adjoining or within grave-chambers, as already mentioned in the chapter headed "Graves and funeral customs". It is possible that their use was more extensive than this, but nothing has hitherto been forthcoming to suggest it.

The scheme of ornamentation applied to the figures appears in the main to be founded on symbols that presumably possessed religious significance. Thanks to Professor Caso's studies we are in certain cases able to penetrate into the spiritual world reflected by these symbols. But for the most part the figures are speaking a language to which we do not possess the key. Rather than giving rein to our imagination, and propounding nothing more substantial than loose conjectures, we must content ourselves with what we can actually see, and things that, as already mentioned, we know.

In spite of the conventionalism characterizing the figures, we obtain from the latter — through clothing, ornaments, etc. — authenticated instances of interesting culture elements which have in part given rise to compound designs such as are dealt with in the foregoing under the section "Studies in Zapotecan culture". One of the most characteristic elements of the dress of the figures consists of large feather crowns. Immense feather ornaments are still used at the religious dances in Oaxaca, fig. 19. From that area the Aztecs also obtained a certain type of head-dress known as Quetzalpatzactli, constructed from the feathers of the Quetzal bird *(Pharomacrus mocinno)* (Seler 1904—1909, vol. 2:256). Even if the urns exclusively represent gods, which does not appear very probable, these would no doubt have been attired in dresses identically or closely resembling those worn by the highest in the land, that is to say priests and chieftains. As will be apparent from the urns here reproduced, the dresses, ornaments, etc., of the figures vary only within fairly narrow limits.

Digitized by Google

PLATE 1

Digitized by Google

A

STANDING WOMAN FIGURE

Vicinity of Oaxaca City.

23. 8. 274.

Height 26.3 cm.

B

SEATED FIGURE

San Felipe Tejalapa,

Distrito de Etla.

31. 23. 2.

Height 40.5 cm.

C

SEATED FIGURE

Vicinity of Oaxaca City.

23. 8. 224.

Height 24.5 cm.

D

URN WITH STYLIZED HEAD

San Bernardo Mixtepec,

Distrito de Zimatlan.

13. 8. 4.

Height 35.4 cm.

The urns may be divided into two main categories, viz. anthropomorphous and zoomorphic. Those of the former category are incomparably more numerous than the animal figures (cf. pls. 30—32). They are further divisible into figures that are seated or standing, the latter being comparatively rare (pls. 2, fig. A; 17—18). Seated figures may again be subdivided into those (most generally occurring) with crossed legs, figures with bent-up knees (pls. 2, fig. C; 24; 25, figs. A—B), the same with the lower part of the body all but concealed by the clothing (pl. 28), urns that are merely provided with face and a head-dress (pls. 2, fig. D; 10, fig. B; 16), figures seated on low stools (pl. 20, fig. C), or on a boxlike seat (pl. 19), and so on. Besides, it is also possible to apply a more "theological" ground for classification, at which the difference between figures with naturalistic faces and those represented as wearing a mask — the latter perhaps representing deities or priests, above all Cocijo, the Rain God, or his servants — becomes the essential point. This sort of classification would, however, only prove of any practical value when it comes to cataloguing extensive museum collections.

In pl. 2 some of the main types are reproduced. The urns consist as a rule of a cylindrical body with a figure placed in front of it. Fig. A shows an example of an urn of a typologically primitive character, with a flat figure forming a screen in front of the cylinder. In fig. C these two elements have begun to coalesce, and in fig. B the development in this direction is almost complete. It has resulted in a fairly naturalistic figure with a hollow body, which nevertheless still retains something of a cylindrical character. Fig. D represents a less common group where the cylinder has assumed hour-glass shape, and the figure has been broken up into decorative elements.

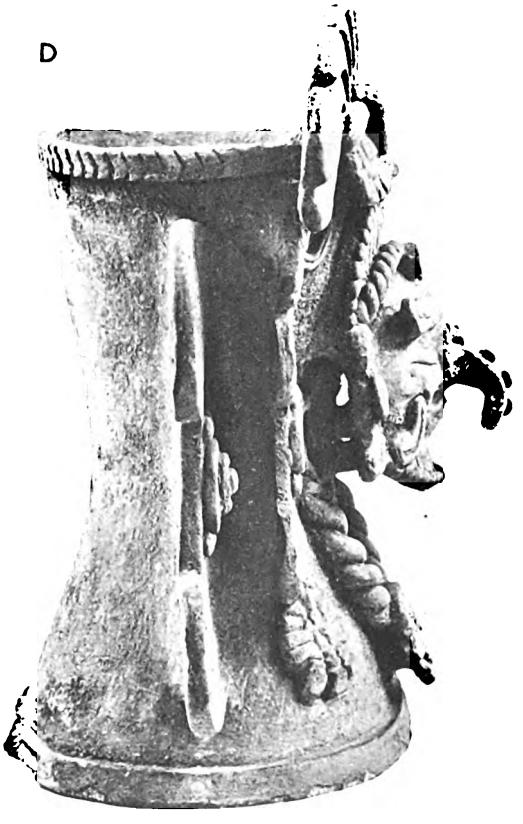
Digitized by Google

A

B

C

D



Digitized by Google

HEAD OF STANDING FIGURE

San Agustin,
Distrito del Centro.
13. 8. 5.
Inner distance between ear-plugs, 10 cm.

While the bodies of the figures, although stylized, are fairly well proportioned, the heads are usually rather large, or else all too small. Occasionally, as in the present instance, the heads are so naturalistically executed that it may quite well be that the artist has aimed at making a lifelike portrait. Caso (1935: 26—27) stresses on the subject of the beautiful urn from Tomb 77 on Monte Alban, already referred to, that "el tipo racial, representado con un realismo extraordinario, es genuinamente zapoteca".

Frequently the mouth is shown slightly open, whereby the teeth are exposed to view. In certain cases the upper incisors are represented as purposely deformed, filed in the same peculiar way as was the custom among the Maya (cf. Blom 1934 a: 10 seq.). The lower lip is generally straight, while the upper has a marked upward curve. Occasionally the orbits are fairly deep, the eyelids fleshy, and the pupils represented by large and deep concavities, effecting good contrasts of light and shade and thereby giving a certain amount of life to the face.

But even more naturalistic faces possess a considerable degree of stiffness, perhaps owing to dignity having been aimed at. Displaying one's feelings and deeper emotions is no doubt, as a general rule, contrary to the best Indian manners.

All the figures, those of human character at all events, are provided with ear-plugs, generally of plain type — a standardized pattern. Neither do the necklets show much variety. Such figures as are wearing large, breast ornaments have, in the place of a necklace, a heavy cord from which the ornament is suspended.

Digitized by Google

PLATE 3

Digitized by Google

SEATED FIGURE

San Lorenzo Albarradas,
Distrito de Tlacolula.
31. 23. 1.
Height 44 cm.

The urn depicted in pl. 4, which is one of the most important pieces in the Museum's collection of Zapotecan antiquities, also belongs to the naturalistically characterized type. Unless it be a realistic portrait, it may be supposed to represent some deity closely related to Ueueteotl (or Xiuhtecutli) of the Aztecs. This deity, the "Old God", was the god of fire and light, the father of gods and men. But there is yet another reason for representing him as an old but active man, although this is a reason not likely to have been known to the ancient artists. This because his worship extends far back in time, and he is presumably the oldest Mexican god now identifiable. On this point Vaillant (1936: 325) writes: "Previously in Copilco-Zacatenco times (approximately 200 B. C. — 400 A. D.), there had been no visible attempt to differentiate formally the various divinities". Pictures of him have been recovered from underneath the lava at Copilco (Gamio 1922 a: pl. 10) — the earliest example hitherto known — at the excavation of the ancient circular structure at Cuicuilco (Cummings 1933: 50—51) and at Ticoman (Vaillant 1931: pl. 89). From Teotihuacan he is known both in the form of large stone figures (Gamio 1922, tomo 1, vol. 1: pls. 22, 122), and clay figures (Linné 1934: figs. 147 and 191). In the Mexican codices his image is also frequently found.

If, on the other hand, this urn is a portrait, or a naturalistic figure, the image of Ueueteotl however occurs as a breast ornament. The old man's face and the mask present a striking likeness. But that a god would be represented wearing his own likeness for a breast ornament does not appear very probable. It seems more likely that the old, and partly toothless, man would have been Ueueteotl's priest and deputy. As to whether he is laughing, or twisting his face into an angry snarl, opinions are divided. A sense of humour was never a strong point with the Indian artists; with them religious gravity almost entirely predominated, but the present instance would constitute an exception: this old man who is laughing at the resemblance between himself and the image of the god.

Digitized by Google

A

B

C

Digitized by Google

SEATED FIGURES

Vicinity of Oaxaca City.

A

23. 8. 264.
Height 19.2 cm.

B

23. 8. 249.
Height 31.9 cm.

C

23. 8. 246.
Height 20.7 cm.

D

23. 8. 238.
Height 19.8 cm.

As already has been mentioned, the anthropomorphous representation of the effigy urns is generally strictly governed by conventional laws. Besides, civilization is in part built up of ancient customs and the observance of certain rules of convention. Of these the vast majority, when a large number of them are reviewed together, are apt to give an impression of monotony, of military uniformity. Ancient Mexican art generally bears evidence of the Indian not being an individualist, but when it comes — as here it does — to art of a religious character, the creative activities of the artists have among all peoples and in all eras been bounded by laws.

The two sections of the effigy urns, the cylinder and the figure, are often so loosely connected that it might almost be possible literally to divide the urn in two independent portions. From a technical point of view the figure has been built up of several parts, each of them constructed by itself, which have then been joined together. Above all in the manufacture of decorative details, but in certain cases also as regards the faces, moulds were undoubtedly made use of. Earthenware moulds were largely employed by the potters of the ancient Mexican high civilizations, a manufacturing stage which in a modest way was a forerunner of latter-day mechanized civilization (cf. Linné 1934: 193 seq.).

The ware is fairly uniform in character, being rather heavy and hard, although occasionally coarse and of a high degree of porosity. The prevalent colour is grey, in different shades, and less frequently brownish. The urns were never painted before firing, but often show traces of paint subsequently applied, generally red. The entire front of a proportion of the urns has apparently been painted red. The art of painting before firing was probably unknown to the Zapotecs, which is remarkable seeing that this technique was of great antiquity in Mexico. As already mentioned, many of the urns recovered on Monte Alban had been painted in different colours. An urn discovered by Saville (1904: 58—59) at Cuilapan carried traces of four colours, viz. white, yellow, red and blue. Possibly these were connected with the four points of the compass. "Gods who bore the weight of the heavens and were at the same time associated with world directions and, by extension, with their respective colors, are known to have played an important rôle in Maya and Mexican religious belief and ceremony" (Thompson 1934: 211).

Digitized by Google

PLATE 5

A

B

C

D

Digitized by Google

SEATED FIGURES

Vicinity of Oaxaca City.

A

23. 8. 247.
Height 19.4 cm.

B

23. 8. 244.
Height 33.5 cm.

C

23. 8. 253.
Height 21.2 cm.

D

23. 8. 263.
Height 17.9 cm.

Most of the figures are strictly symmetrical, the only exceptions being such as are holding some object or other in their hands. But even in these cases the remainder of the body is perfectly symmetrical. Seen from the front, the figure generally masks the cylindrical portion altogether. The majority are in seated posture. The legs are generally crossed, the hands resting on the knees, with fingers close together and pointing downwards. The hands are proportionally rather large, and the fingers never separately formed. Frequently the nails are not indicated. Only slight attention has been paid to the feet, the artist frequently having contented himself with only chiselling out four toes, and in some cases only three. This, however, only applies to figures with crossed legs. Where, on the other hand, the legs are exposed, then the feet are carefully sculptured, and the construction of the sandals faithfully reproduced (pls. 17, 18, 24).

The sandal types — as well as other details of attire — of ancient Mexico would most certainly repay a special study. The material obtainable from frescoes, stone sculptures, earthenware figures, and Codices — as well as from the Chroniclers — is immense. Much has besides survived into our own times (cf. Schellhas 1890; Fernandez Ledesma 1930; Butler 1931).

It occurs, although more rarely, that the arms are crossed over the breast (Seler 1890: fig. 5; Saville 1899: pl. 24, 1904: 56; Dieseldorff 1926: fig. 216; Noguera 1930: figs. 32, 34). Figures with crossed legs have these generally made in one piece with the lower part of the body. Where, on the other hand, they are shown extended from the body, they have, like the arms, been given a not very naturalistic tubular shape, with no indication of muscles, and frequently without any indication of joints. The anatomy of the human body was apparently of no interest to the artists, and naturalism, where present, did not extend beyond the faces or — although less frequently — the torso. This absence of realism is not necessarily ascribable to a lack of knowledge on the part of the artist, but may be due to conservative conventionalism.

Digitized by Google

PLATE 6

A

B

C

D

Digitized by Google

HEAD OF SEATED FIGURE

Vicinity of Oaxaca City.

23. 8. 227.

Length of head-dress (bottom figure), 25.8 cm.

Height of figure, 36.2 cm.

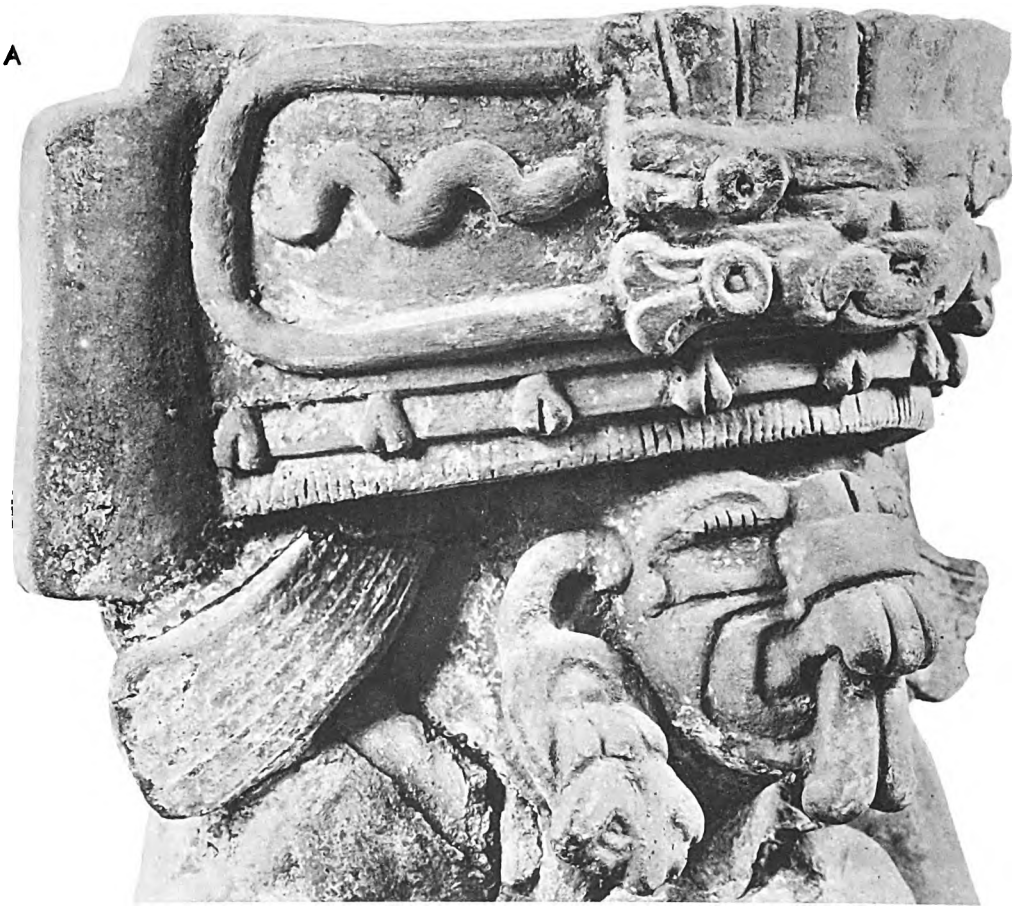
A feature pervasive to the majority of figures, and one which immediately leaps to the eye, is the showy head-dress that varies in form but always appears to have been subjected to most particular interest by its sculptor. The larger of these head-dresses — there are also smaller and plainer ones, as will be seen from illustrations in the following — consist of a rectangular body fixed above the forehead, to which often has been applied an upright crest, probably feathers "translated" into clay.

The photograph taken from above of this urn shows how this large and heavy component is attached to the cylinder itself. The same method, although in different variations, occurs in most cases where the figures are provided with large head-dresses. The bottom edge is finished off with a border consisting of vertical, serried incisions. It gives an impression of being intended to represent a fringe, although not infrequently the roots of the hair — a detail that primitive artists have always found difficulty in mastering — are indicated by this means.

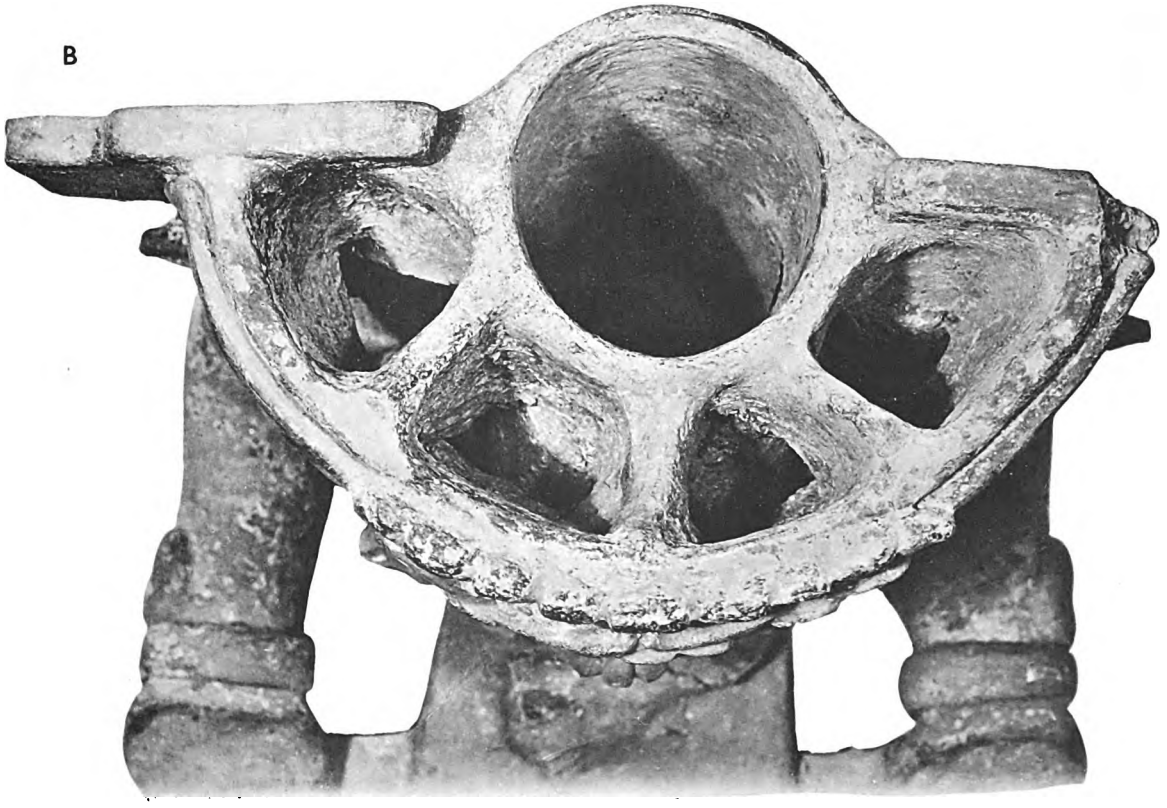
Extremely complicated head-dresses — feather crowns, plume crests, different kinds of ornaments, and complicated frameworks for holding all these components together — are exceedingly typical of ancient Mexico's human figures in codices, on stone monuments and on clay figures. Excelling above all in ornaments of this kind, and of fantastic forms and proportions, are the figures carved on Mayan stone monuments. These to our mind not seldom grotesque arrangements were naturally not worn by the common people, but constituted symbols of dignity pertaining to the representatives of wordly and spiritual power, i. e. chiefs, warriors and priests. In the tribute lists of the Aztecs, in which are recorded the dues payable by subjected peoples, feathers occupy a prominent position. These head-dresses have also been touched upon in connection with the letterpress belonging to pl. 1.

Digitized by Google

A



B



Digitized by Google

HEAD OF SEATED FIGURE

Vicinity of Oaxaca City.

23. 8. 254.

Width between inner edges of ear-plugs, 6 cm.

Height of figure 36.9 cm.

Judging by the dress — a mantle of a shape similar to that shown in pl. 2, fig. A — this figure represents a woman. Mantles of this type were in fact even worn by the women of Teotihuacan, and have even down to our times survived among Aztecs, Otomí, Totonacs, and possible also among other Indians. By its dimensions the head-dress, although not very elaborate, altogether dominates the rather unpretentious figure. The face, which is small, wears a somewhat wistful expression, and recalls a group of mould-made faces in Teotihuacan. The ear-plugs are provided with an extra, pendent ornament of the same kind as worn by the figure in the foregoing plate. This appendage, which with slight variations occurs in quite a number of cases, might possibly represent a flower. A certain affinity is traceable with the Aztec day-sign, Xochitl, "flower".

In all parts of Mexico excepting the northwestern section flowers play a very prominent role in Indian religious ceremonies. To different saints different flowers are devoted, and specific kinds of flowers are also used at the festivals of the Christian Church. Undoubtedly this custom dates back to pre-Spanish times. The saints have supplanted the ancient gods, as have the Church festivals the periodically recurring feasts of the ancient religion. The men of the Roman Catholic Church not only built Christian temples on the sites of the old ones, but also baptized the ancient gods and gave them new names. Such details of their worship as were acceptable were also allowed to continue.

In the centre of the rectangular "framework" there is almost always a decoration, probably of symbolic significance. It generally consists of a stylized jaguar face, which possibly may be connected with the Rain God, Cocijo, of which further will be said in the following. On the present simple head-dress, which is set with broad and short feathers, the emblem has not been much elaborated, this being the result of far-carried stylization (cf. p. 86).

Digitized by Google

PLATE 8

Digitized by Google

SEATED FIGURE

San Felipe Tejalapa,
Distrito de Etla.
31. 23. 2.
Height 40.5 cm.

Unlike the majority of urns, this one is manufactured of light-greyish clay, and in addition provided with a rather loosely adherent, still lighter coating. This magnificent urn belongs to the same type as that in pl. 2, fig. B. The two primary components, the screening figure and the cylinder, have all but coalesced into a comparatively naturalistic human representation. Even the face is naturalistic, with the mouth half open, and the thin nose uncommonly projecting. The showy head-dress consists of a central portion of ordinary type, but to it has been added large, wing-like side-pieces, attached to the back of the head. The feathers of the central portion seem to be held together by a stoutish, twined cord from which a large tassel depends in the centre. The figure is wearing a collar, apparently composed of two tiers of globular beads and a bottom row made up of objects resembling metal bells. As mentioned in the foregoing, it may safely be assumed that metal objects only appeared at a later period in Oaxaca. That some stray object of that kind may occasionally have been imported earlier from a remote distance is perhaps not impossible, although not very probable. The collar is evidently expanded by an underlying frame. In its right hand the figure is holding an object resembling the hieroglyph "J" — according to Caso's classification of the Zapotecan hieroglyphs, but which may also be the sign for the numeral 5 (cf. Caso 1928: fig. 2). In the central region are seen five globular knobs, which may possibly signify "5 J".

An object exactly similar to this is possessed by two figures reproduced by Mason (1929: 185 and 187), though that held by the latter lacks the wing-like projection. Both these figures are standing, and are in the left hand holding an object recalling an arrow. As these objects impress on as being darts for throwing, the object held in the right hand might possibly represent an atlatl, a throwing-stick. From Tlacolula we have an urn with a standing figure which in its right hand is holding an object of the same kind as that with which the present one is provided. In its left hand it has a second object of this type, which however lacks the five knobs and the wing-like projection (Basler et Brummer 1928: pl. 19). There is a certain resemblance between this object held in the hand of the figure, and the maize cob, etc., that the figure on the urn depicted in pl. 13 has in its head-dress. If a connection exists, and not merely a resemblance, the object in question may be supposed to have had some ritual purpose connected with the harvest.

Digitized by Google

A

B

C

Digitized by Google

A

SEATED FIGURE

Vicinity of Oaxaca City.

23. 8. 261.

Height 26.6 cm.

B

URN WITH STYLIZED HEAD

San Bernardo Mixtepec,

Distrito de Zimatlan.

13. 8. 4.

Height 35.4 cm.

Of the two figures here reproduced, the top one apparently has, apart from a low feather crown, a turban-like head-dress of the type here dealt with in the foregoing, p. 61, and also often used by figures in the codices. Strangely enough the figure — to judge by its dress — appears to be of the male sex, although this kind of head-dress, at any rate in our days, is only worn by women. That the same thing also applied to ancient times is evident from two figures from Zaachila, depicted by Seler (inter alia 1904: 353—354), which to a certainty represent women. These lack the feather crown as well as the wing-like side-pieces, but one of them has, like the figures here reproduced, attached to its tresses small balls incised with a cross.

The lower figure is of very uncommon type (cf. pl. 2, fig. D). Here the cylinder has been replaced by an urn of hour-glass shape, combined with a fantastic head. Basler et Brummer (1928: pl. 24) reproduce a closely affined urn from Teotlican (Teotitlan?), and Lehmann (1922: pl. 34) has published an urn of common type but with quite the same peculiar head. The double, wing-like side-pieces, that generally go together with the head-dress, are, like the latter, attached directly to the urn instead of being modelled in one piece with the head. The feather crown is held together by a frame, which in its turn is kept in situ by means of two loops or staples. Below the feather crown are set three plaques of a type common in Teotihuacan, which, according to Seler (1915: 479), symbolize the feather "disks" surrounding the eyes of owls. The fantastic face is above and below surrounded by peculair, clapper-like objects, and side-pieces resembling the larger ones that are attached to the urn. The strangely-shaped nose brings to mind certain Mayan gods (God "B"), and at the root of the nose has been formed a bird's beak, possibly that of an owl. That there exists some sort of connection with Caso's hieroglyph "F" is not altogether impossible. The face itself, with canine teeth, the arabesque adjoining the eyes, and the ornament in the forehead, recalls the Mayan sun-god such as he is represented on an urn of hour-glass shape illustrated by Dieseldorff (1926: fig. 175).

Digitized by Google

A

B

Digitized by Google

SEATED FIGURE

Peñoles,
Distrito de Etla.
13. 8. 2.
Height 27.6 cm.

There are also figures that are remarkable for the exceeding plainness of their head-dresses, or, perhaps more correctly, head-gear. As examples of this, in the present plate and the next following are reproduced figures wearing a head-covering like a nun's hood, which lies closely along the upper part of the cylinder and then hangs down at the sides. The incised lines produce a certain semblance as of hair. The stiff portions hanging down so as to cover the shoulders are, however, more favouring the supposition of a hood of some sort being intended. That a figure with a face which — in spite of the heavy body, so strongly influenced by the cylindrical shape — is so naturalistic as this should have been provided with hair so highly stylized, strikes one as more than improbable.

As the dress of the men has become entirely Europeanized, no comparative material is, unfortunately, in our days, available. The women's dress has remained more conservative, of which at any rate one indisputable example is found in the abovementioned large false tresses that are arranged in a manner so as to make the dressing of the hair somewhat resemble a turban. Corner (1899: 38) maintains that a connection exists between the tall head-dresses, resembling feather crowns, on the funeral urns and the head-cloth still used by the Tehuantepec women. This is closely pleated, or frilled, stands erect on the crown of the head, and hangs down at the sides. He illustrates an archaeological figure along with a Zapotec girl in this attire, and says: "this seems to the writer to be a survival of the ancient type of head-dress". The resemblance is perhaps not directly striking, but specialists on European dresses at the Nordiska Museet at Stockholm state that no article of dress corresponding, or similar, to that of the Tehuantepec women is known from Europe. This point has been dealt with in detail in the foregoing, p. 61, where also other theories as regards the head-cloth of the Tehuantepec women have been cited.

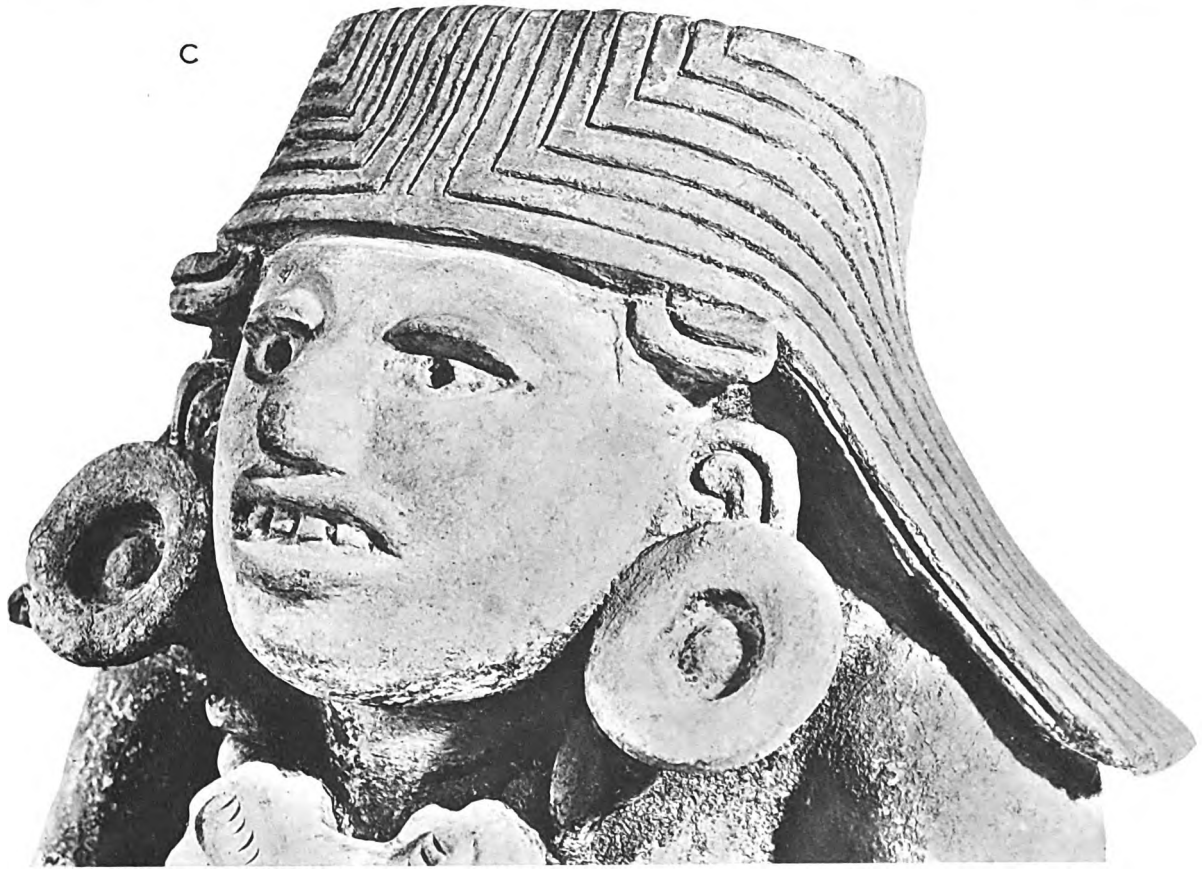
In the present case the breast ornament, which has been given considerable dimensions, is somewhat more elaborately ornamented than is usually the case with figures of this type, cf. pl. 12.

Digitized by Google

PLATE 11

A

B


C

Digitized by Google

SEATED FIGURES

Vicinity of Oaxaca City.

A

23. 8. 259.
Height 19.8 cm.

B.

23. 8. 255.
Height 18.2 cm.

C

23. 8. 256.
Height 26.2 cm.

D

23. 8. 242.
Height 30.1 cm.

All the figures belonging to this group of urns are simple both as regards dress and ornaments. Neither do they rank particularly high either technically or artistically. The faces are frequently small, and naturalistic although rather blank of expression. Fig. D, which possibly represents a Zapotecan relative of the ancient deity known among the Aztecs as Ueueteotl, the "Old God", unless he, by way of being an exception, represents a most ordinary old man. If the latter be the case, the ear-plugs are nevertheless ornamented, which is contrary to the usual practice. The hood-like head-covering is occasionally, as in fig. C, provided with an emblem which is a highly stilized jaguar's head— hieroglyph "C", although this is uncommon. Of rare occurrence is an extra, screen-like head-dress, such as seen in fig. B, which likewise seems to possess certain elements obtained from the stylized jaguar's head, cf. p. 86, and the letterpress pertaining to pl. 26.

The breast ornaments may possibly be of hieroglyphic character, although their significance is unknown. A remarkable thing is that they almost exactly correspond among different figures that in other respects entirely differ from each other. Minor variations, such as the number of globular bosses in the centre, do however occur. Of the figures here reproduced, similar breast ornaments are worn by those in pls. 12, fig. A; 6, fig. D; 25, figs. A, B, D; 26, fig. B, while as a second group may be mentioned pl. 12, fig. D; 6, fig. B; 10, fig. A; 15, figs. A, C; 26, figs. A, D; 27, fig. B. Most probably they were manufactured in moulds. An urn not here reproduced, in appearance strongly resembling that in fig. A, is provided with a similar ornament which, judging by measurements and minor details, probably originates from the same mould as that in fig. D. That these were not exclusively meant as ornaments is exceedingly probable, especially as they occasionally (pls. 4, 22—23, 27) bear resemblance to the face of Ueueteotl.

Digitized by Google

A

B

C

D

Digitized by Google

SEATED FIGURE

Vicinity of Oaxaca City.

23. 8. 273.

Height 38.5 cm.

Beside the almost obligatory feather diadem, the head-dress of the figure reproduced in this plate contains unusual elements of great interest. As will be seen, the so frequently occurring jaguar head motive has been replaced by a pair of hands holding a vertical corn-cob. This is possibly inserted into an object the upper edge of which consists of the U-shaped portion of the jaguar head motive. On either side of the hands are seen objects resembling lanceolate leaves, held in place by S-formed bands. The latter frequently occur, alone or together with rounded bosses, on different parts of the urns. The lanceolate objects possibly represent the male flowers of maize.

A figure from Talpan (Distrito del Centro) depicted by Fuhrmann (1922: pl. 45) and Dieseldorff (1926: fig. 212) holds between its hands a corn-cob, and for a head ornament has seven others, of large size, set side by side in a row. Like the corn-cob of the urn here dealt with, that held between the hands of the figure from Talpan terminates at the top in a sort of tuft, and is by Dieseldorff described as "Maiskolben, welcher sich in der Blütezeit befindet". Seler (1890: figs. 8, 11, 14), Saville (1904: 50), Rickards (1910: 132), Noguera (1930: figs. 34 c—d), and Thompson (1933: pl. 30) reproduce urns with corn-cobs. The cobs are often provided with the tuft- or tassellike elements, which Seler describes as "die beiden Narbenbüschel, wie sie die jungen Maiskolben tragen" (Seler 1890: 183).

This figure probably represents the "God of the Harvest", in some sort of way connected with the Rain God, that was worshipped by the Aztecs. In the foregoing (p. 80) I have cited Seler's account — on the authority of Burgoa — of the ceremonies carried out on the occasion of the harvesting of the maize. The largest and finest of the corn-cobs was selected at the harvest, was paid homage to in various ways, and then preserved till the following year, when it was finally buried in the newly sown maize fields.

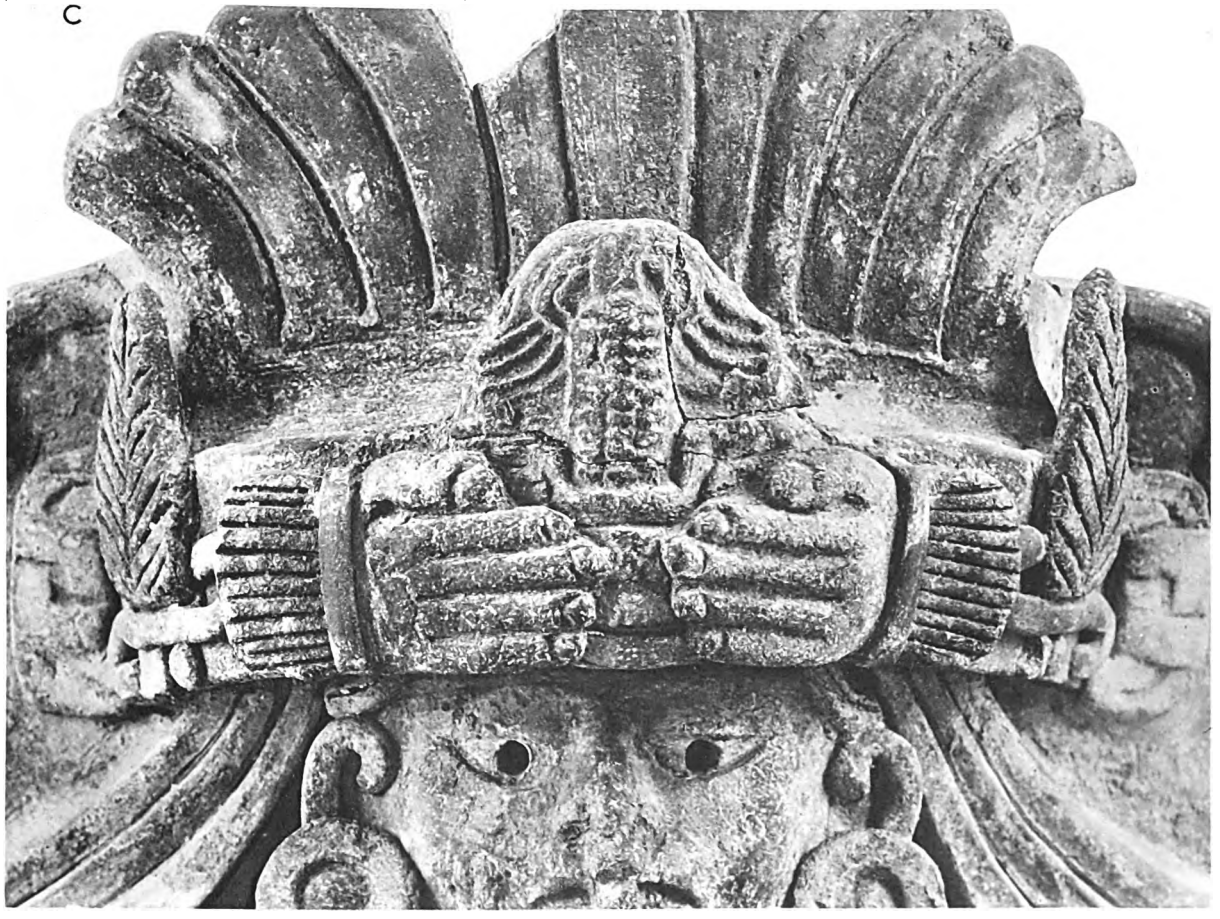
Digitized by Google

PLATE 13

A

B

C



Digitized by Google

SEATED FIGURE

San Lorenzo Albarradas,
Distrito de Tlacolula.
Museo Nacional, Mexico City.

As, according to the opinion of the Mexican specialists, this funeral urn must be regarded as unique, its taking out of the country could not be permitted. It was therefore handed over by Mr. Paulson to the Museo Nacional, Mexico. As will be apparent, the figure differs in many respects from the majority of urns, and, apart from possessing a number of interesting details, bears in its general character evidence of having been created by a real artist.

As regards the body this urn is one of the few that have been given a, for Mexican art, pretty far advanced naturalistic form. Very remarkable are the legs below the knee, which are of disproportionate length, and cylindrical. As in modern European art, here expression has above all been aimed at, while exactness as to dimensions has been disregarded. Clothing has been reduced to a minimum, consisting only of a narrow loin-cloth. The figures that are engraved on the legs, arms and breast possibly represent body-painting. To these, as well as to the head-dress, I shall recur below, pls. 17 and 21. The character of the object held in the right hand is problematic, but it presents certain points of resemblance to the hieroglyph "L", although it lacks its central element, "un ojo estelar" (Caso 1928: 39), which however may be hidden by the hand.

Digitized by Google

PLATE 14

Digitized by Google

SEATED FIGURES

A

Northern part of the Etla Valley.
23. 8. 250.
Height 44.3 cm.

B

Vicinity of Oaxaca City.
23. 8. 228.
Height 31.2 cm.

C

Vicinity of Oaxaca City.
23. 8. 245.
Height 31.2 cm.

Although of a type in all other respects entirely different from the figure reproduced in the plate next foregoing, the figures here illustrated possess one feature in common with it, viz. the slanting eyes and the peculiar, tensed — "savage" — expression of the face. The head-dresses, which only consist of small feather diadems and a rearward, screen-like, portion of some apparently more solid material, all have in the centre the jaguar's head, possibly in combination with highly stylized serpent figures. The feather ornament appears to stand in direct relation to this element, which in figs. B and C are identically similar. The feather diadem appears more to belong to the jaguar head motive than to the remainder of the head-covering. In fig. A the jaguar's head is particularly distinct; the mouth with its large canines, the curling upper lip and the nose are executed in a comparatively realistic manner. Fig. B seems to hold between its hands a bow-shaped band of unknown significance. Fig. A has a small, globular ornament attached to its nose. A similar object also adorns the figure illustrated in pl. 13, while an effigy urn from Suchatengo, reproduced by Fuhrmann (1922: pl. 67), which, although in other respects dissimilar, in facial features exactly resembles fig. A, and also possesses this by no means common ornament. This urn has in addition its ear-plugs hung with tassels — another not very common feature. Both fig. A and fig. B have black spots, possibly the result of incense-burning with copal.

As for some reason or other it has been considered desirable to conceal the cylinder — the urns are made to be viewed straight from the front — the figures have seldom or never been provided with a defined neck. The head is made to rest more or less directly on the shoulders, in consequence of the cylinder often being of large proportions. For the same reason the heads are as a rule too large in relation to the body.

Digitized by Google

A

B

C

Digitized by Google

LARGE BODYLESS EFFIGY URN

San Lorenzo Cacaotepec.
Distrito de Etla.
13. 8. 3.
Height 44.8 cm.

This urn corresponds to a certain extent with pl. 10, fig. B. From the ordinary run of urns this type differs in that the body is absent, having been replaced by an oval spreading foot. This make the urn definitely hour-glass-shaped. The "bottom" is placed at its narrowest part. From the neck region and upwards there are — from the frontal view — on the other hand no divergencies from the ordinary urns to be noted.

This type is not very common, but Mason (1929: 201) however depicts a funeral urn almost identically similar. The head is set within a shieldlike frame, which at the top is bordered by the line characteristic of the stylized jaguar's head, and perhaps represents the open mouth of some animal. A human head in animal jaws is a rather important motif in Mexican and Central American art.

The head-dress consists of three parts, each of which is provided with a large plume. Those at the sides recall the "wings" in pl. 9, and from them are on either side hanging down three narrow feathers adorned with attached rings — a commonly occurring decorative motif, which is varied in different ways. The central portion, on the other hand, resembles a strongly stylized bird with outspread wings. The breast ornament is small, but the cord from which it is hanging has been given very substantial thickness, and, as is frequently the case, is represented as twined. The eyes are halfopen, the upper lip drawn up, and the hair is cut square over the forehead. The face shows a certain affinity to the complex incense-burners from Teotihuacan and Atzcapotzalco (Gamio 1922, tomo 1, vol. 1: pl. 115).

Digitized by Google

A

B

Digitized by Google

STANDING HUMAN FIGURE

San Agustin,
Distrito del Centro.
13. 8. 5.
Height 46.1 cm.

In this plate and the next are reproduced the three standing figures that are found in the collections of the museum. Large human figures in a standing position are fairly sparingly represented among ancient Mexican ceramics, a circumstance at least partly ascribable to technical difficulties. As will be noticed, this figure has been provided with a special support, or prop, in spite of its feet and legs being particularly sturdy. This strange urn, which is of high aesthetic value, apparently represents a humpbacked man. There seems to have been no other reason for giving the usually cylindrical portion of the urn a rounded shape, and the set of the head also favours this supposition.

Even in the pre-Spanish era it seems to have been usual in various parts of America to regard hunchbacks as bearers of good luck, a superstition which was met with approval by the Spanish clergy. Also in this instance the Church, which within certain limits was ever ready to adapt itself smoothly, built upon ancient Indian conceptions. Humpbacked figures have been archaeologically recovered from Tennessee to Peru, although in no place they cannot excactly be said to abound. In the same way as at royal courts in Europe, hunchbacks were found at the court of Montezuma, and, according to tradition, persons of this kind appeared in association with jesters in Quetzalcoatl's suite (Seler 1927: 290). Sahagun (1922: pl. 48) also depicts jesters and individuals in this way deformed as appearing together.

Very peculiar are the angle-bent tubes that issue from the back of the urn. They have been "stayed" with horizontal props, and are so placed as if it had been intended that they, or objects contained in them — e. g. ornaments composed of natural feathers — were to be viewed from the front in definite relation to the head. The object held in the hands of the figure has the appearance of being a cylindrical stamp. Implements of that kind were in use among the Zapotecs, but it is not known whether they were employed in painting of the body or for making patterns on cloth. The decoration seen on the figure in pl. 14 appears to be intended to represent body-painting.

Digitized by Google

A

B

C

Digitized by Google

STANDING HUMAN FIGURES

Vicinity of Oaxaca City.

A and B

23. 8. 270.

Height 38.1 cm.

C and D

23. 8. 252.

Height 35.4 cm.

Both figures here reproduced are, like the one seen in pl. 17, dressed in stiff, slightly undulated, skirt-like garments. Only in one case, fig. B, is this garment secured by means of a belt. It does not appear unlikely that these thick "skirts" form part of the wadded armour that the Zapotecs are said to have used, and to this supposition colour is lent by the broad and bulbous chest region of fig. A. Its headgear, recalling the hat of Napoleon, is of an uncommon type. As will be seen, it is provided with two large eyes, bordered by a rim, while between them is a beak-like "nose", and below the latter a bifurcate serpent's tongue. Peculiar, too, are the four globular bosses placed at the root of the nose. The figure is provided with two necklaces, and from the middle of the lower one a bird's head is suspended. To this necklace — or to the ear-plugs — are attached large objects resembling jaguar's teeth, which from their size may possibly be imitations (for imitation teeth, see Vaillant 1935 a: 249). The curly objects, surrounded by bosses, that are seen on the breast and the skirt (cf. also pls. 3, 13 and 17) are as regards shape suggestive of Huichol's sacrificial bread, used in rain magic (Seler 1908: 388 seq.). A figure with an almost identical front — the back being however quite different — is depicted by Peñafiel (1890, vol. 1: pl. 69). Another interesting dress detail is found in the pleated, muff-like objects encircling the legs, which occur on several figures.

The lower figure is provided with a head-dress of the more common type, but here it partly encompasses the face in the manner of a helmet. In the place of the armour-like garment worn by the upper figure, this one has a small cape. It is the only armed figure in the collection. The weapon consists of a club, which curiously enough is held in the left hand. On the right forearm the figure carries a circular shield which, like its Aztec counterpart, is adorned with pendent feathers. Mason (1929: 189) reproduces a similar standing figure which resembles the Fat God (cf. Beyer 1930: 82 seq.), although in a lean version. It, too, carries a shield, and of the same kind, but on its left arm, which is the proper way even though the shield only be a ritual object.

Digitized by Google

A

B

C

D

Digitized by Google

HUMAN FIGURE SEATED ON A BASE

Provenance unspecified.

29. 4. 1.

Height 29.5 cm.

Urns placed on box-like bases or chests belong to the less common types. Either they are as in the present case built up in one piece with the base, else placed on a flat support, when they constitute the lid of the box-like base as the urns found in the entrance to Tomb 7, Monte Alban (Caso 1932 b: 467). The pedestal may be decorated in various ways, whereby its significance is denoted. The boxe-like bases just referred to are occasionally provided with short legs, and are then suggestive of thrones. Persons depicted on stelae are occasionally seated on thrones of a similar kind (Caso 1928: 189). It is possible that figures not infrequently have been provided with bases, seeing that in a grave at Xoxo (Mound 9) fragments of the box-like bases were found in the excavation, while the urns — five in number and, judging by the picture, identical in appearance — had been fastened above the entrance to the grave (Saville 1899: 358—359; 1904: 54).

An urn depicted by Fuhrman (1922: pl. 45) has a base which beyond any possible doubt represents a pyramid, or platform, with a flight of steps in the middle. The step-like border seen in pl. 19 is the Zapotecan symbol of mountain. The Aztecs and the Mixtecs used, in their codices, more naturalistic figures for such representation, while the Zapotecs used the step-like figure, the conventionalized hill, with inscribed hieroglyph, in denoting place-names. Stela 11 from Monte Alban, on which inter alia is depicted a standing figure with a head-dress representing a jaguar's head, shows the same spiral figure within the step (mountain) sign (Caso 1928: figs. 56—58).

The face is unusually good-looking, and modelled with much feeling. The breast ornament possesses direct counterparts in birds' heads of clay from Teotihuacan, often representing owls. Whether it can be connected with hieroglyph "F" is an open question. The head-dress consists of the head of some animal, the retroflexed "nose", and the fangs, denoting a serpent. At the side of the ear ornaments of this animal head human hands are seen. Human hands occur here and there among the hieroglyphic inscriptions on the stelae, in combination with other symbols. In the present urn the ware differs slightly from the ordinary, it being more finely washed. The face and parts of the front are thickly painted red.

Digitized by Google

PLATE 19

Digitized by Google

SEATED FIGURES

Vicinity of Oaxaca City.

A

23. 8. 239.
Height 23.2 cm.

B

23. 8. 240.
Height 30.5 cm.

C and D

23. 8. 262.
Height 32.4 cm.

The figures here reproduced — all more or less damaged — represent types of less common occurrence. All of them were originally seated, possibly in the same way as fig. C, although this cannot be determined with certainty. Figures seated in this particular posture are exceedingly rarely found. This is because seated figures generally have their legs crossed, a posture assumed as a matter of course by anyone sitting on a mat, but also used by persons placed on a throne (cf. Caso 1928: 182). Stools, as an article of furniture, do not seem to have been much in favour.

Figure C may possibly be attired in a stiff, straight outstanding, pleated skirt, cf. pls. 17 and 18. For the rest the dress consists of a short cloak, or cape, on which rests a necklace provided with two pendent ornaments. The head-dress has suffered a great deal of damage. The central portion differs altogether from the usual motif, and is presumably connected with the corn-cobs seen at either side of it.

Figure B, too, is a maize or harvest god, or a priest attired in a dress for ceremonies connected with the harvest. The damaged crown consists of corn-cobs (cf. Fuhrmann 1922: pl. 45) and a plain ring surrounded by rows of projections resembling corn-grains. The ear-plugs are provided with pendants resembling those in pls. 5, figs. B, D; 7 and 8; 15, fig. C; 27, figs. B—C.

Similar ear ornaments, possibly adorned with flowers, are also seen in fig. A. Like the rest, this figure has a striped collar, which may possibly consist of feathers. The head-dress bears resemblance to a hood descending on the shoulders. The centre portion consists of an unusually distinct jaguar's head, with three teeth in the upper jaw. Caso (1928: figs. 16 and 17) depicts urns — one of which has a body resembling that of fig. B — with the same figure above the eyes as fig. A. Caso calls this motif "ojo estelar", and connects it with hieroglyph "L". In addition there are from the nose issuing ornaments, like moustaches.

Digitized by Google

A

B

C

D

Digitized by Google

HEAD OF SEATED HUMAN FIGURE

San Lorenzo Albarradas,
Distrito de Tlacolula.
Museo Nacional, Mexico City.

This beautiful and very interesting urn has here already in the foregoing (pl. 14) been depicted and partly described. The man with the tense and "savage" facial expression has a certain air of being a stranger among the uniformly orientated and conventional Zapotecs, such as they are reflected to us through their clay figures. Its peculiar, untamed look is largely due to the shape of the eyes, with the iris partly hidden by the lower eyelid. But the attributes of the figure are of a true Zapotecan character. Its striking head-dress — resembling a low turban, or a ring of some sort of material wound with ribbons, and at the bottom terminating in a frontlet — is provided with the jaguar's head motif. Here simplification has been carried very far, but the emblem is beautifully formed.

Down on the forehead are, from the head-dress, hanging four strips putting one in mind of the teeth, frequently four in number, that are occasionally represented at the bottom edge of the jaw of the jaguar's head. Above this four studs are seen. As, according to Caso's classification of the Zapotecan hieroglyphs this emblem is referred to as "C", it is possible that the head-dress implies 4 C. C being one of the day-signs, we get the result: the day of 4 C. Seeing that the Zapotecs named children after the day on which they were born, it is *possible* that the name of this man may have been "4 C." Perchance scientific research will succeed in solving the problem of the sequence of the day-signs — the names of the days we know — and then it will be possible to exchange "C" for the day-name.

On the upper arms and the breast, figures are engraved. The latter, which represents a bird's head — possibly an owl's — corresponds with hieroglyph "F". The others do not appear sufficiently distinctly in the photograph, but may likewise be of hieroglyphic character. The ornaments consist of a necklace of globular beads, and of ear-plugs provided with large, slightly conical, projections. In spite of this urn being fairly realistic, it is apparently meant to be viewed only directly from the front. The necklace, consisting of round beads, terminates abruptly at the ears, that is to say just where it ceases to be visible straight from the front. This frontal character is a feature common to all Zapotecan urns even when they, as in the present case, with slight modifications could have been made for viewing from all sides.

Digitized by Google

PLATE 21

Digitized by Google

HEAD OF SEATED FIGURE

San Lorenzo Albarradas,
Distrito de Tlacolula.
31. 23. 1.
Distance between inner edges of ear-plugs, 9.1 cm.

In front of a tomb at Xoxo, Saville (1899: 355—356; pl. 22) found 5 urns placed in a row, all representing seated figures. The face of the middle one was exceedingly beautifully modelled, and its naturalism so obvious that Saville in the figure saw "a portrait of some ancient Zapotecan personage". The remainder were all exactly alike, though different from the one in the middle, and were wearing the mask of the Rain God, Cocijo. The central figure was attired in a cloak-like garment, apparently very richly adorned, while the rest had a short, collar-like kind of neck-wear. All of them were provided with the same type of breast ornament, viz. a large face from which depended bell-like objects, possibly representing such bells made from shells that have been recorvered at Mitla (Caso 1936: 10). The faces of the masks had evidently been given the same features as those of the central figure, who consequently was wearing his own portrait on his breast. Strangely enough his own portrait mask had, hanging down from it, 5 objects, while those of the others only had 4. In this circumstance one might be tempted to seek for riddles connected with magical numbers.

The head of the effigy urn reproduced at pl. 22 constitutes another example of correspondence between the facial features of a figure and those of its breast ornament (cf. also the letterpress belonging to pl. 4). The richly ornamented cape is also worthy of noting, and so are the three objects hanging down from the breast ornament, which are of the same character as those mentioned above.

In the foregoing account has been given of the custom of filing and inlaying the teeth in ancient Mexico (p. 59). Certain urns are known whose figures have teeth clearly represented as deformed. The above-mentioned four Cocijo urns have, in the mask (upper jaw), four strong teeth, of which the middle ones are filed so as side by side to form a T-shaped figure. The figure here depicted, that of an old man, appears, however, more likely to have lost the two middle teeth in the upper jaw. The female figure depicted in pl. 2, fig. A, seems, on the other hand, to have filed teeth in the upper jaw.

Digitized by Google

Digitized by Google

HEAD OF SEATED FIGURE

Vicinity of Oaxaca City.

23. 8. 271.

Inner distance between ear-plugs, 5.7 cm.

The contrast between this figure and the preceding one is remarkably great. Technically speaking, this funerary urn occupies a rather low level, which here, as in many other cases, is not due to inferior craftmanship on the part of its creator, but rather to the impression it conveys of being a piece of work manufactured in haste. Its various components, each independently modelled, have been very loosely assembled — both literally and from an artistic point of view — and the artist has neglected to carry out thorough finishing, such as rubbing out and filling up joints, smoothing and polishing the surfaces, etc. The engraved decoration, too, and the patterning of the dress, suggests a hastily — too hastily — executed piece of work.

On what the marked divergence, in this respect, between different figures depends appears difficult to determine, by reason of the functions of the urns being unknown. If they had been the property of the deceased, used by him at religious ceremonies and the like — lares and penates, as it were — they would not likely have been hastily, occasionally even slovenly, manufactured. If, on the other hand, they were manufactured or procured for a funeral, the careless workmanship could easily be explained.

The large breast ornament also in this case represents the face of Ueueteotl, although even here it is more summarily executed than in the preceding case. It should be mentioned that in the museum collections of funerary urns additional representations of Ueueteotl are found, but they were exceedingly badly damaged during their transportation to Sweden. Below the mask is seen an object resembling a stylized rosette. Decorative details of this kind occur from Teotihuacan to Guatemala on clay vessels and earthenware objects of various kinds.

Digitized by Google

Digitized by Google

SEATED FIGURE

San Lorenzo Albarradas,
Distrito de Tlacolula.

31. 23. 3.
Height 42.5 cm.

This urn, on the other hand, is of a high order. Like those depicted in pl. 2, fig. B, and pls. 9 and 14, it differs in type from those most commonly occurring by the obligatory cylinder having coalesced with the figure and become a comparatively naturalistic body, with which the limbs have united in a way very true to life. Both fingers and toes are realistically formed. As will be apparent from the profile view, it is however mainly designed to be viewed from the front, in spite of its having a certain character of being a sculpture in the round.

The head-dress is of an unusual shape. The dress consists, apart from the fringed loincloth, frills round the legs and well represented sandals, of a short cloak, decorated with a cord and in front held together by a brooch- or button-like object. On the shoulders are seen buttons similarly decorated, and straps recalling the forked snake's tongues (of such frequent occurrence). The character of the object the figure is holding to the front is difficult of determination. To some extent it resembles the bags for holding incense with which the figures of the codices are often provided, but it may also be something quite different, such as a coiled sling (cf. Rickards 1910: 133). The armament of the Zapotecs among other things included slings: "they are great archers, and shoot stones from slings..." (Díaz del Castillo 1912, vol. 4: 345).

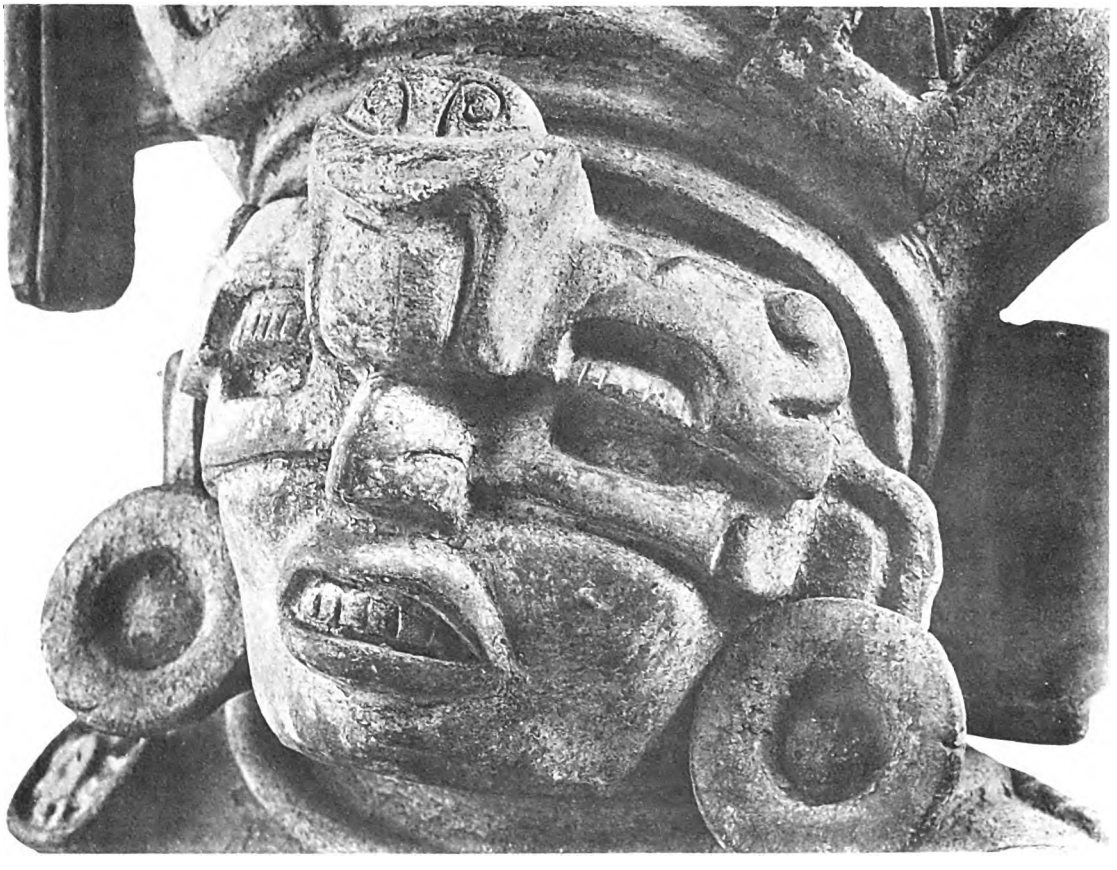
The figure is wearing a mask over the upper part of the face, which forms a powerful and effective contrast to the unusually expressively and beautifully modelled lower portion. There is a certain serpent-like character about the mask, with its head with wide open jaws above the nose, and the figure conforms to the figures next following which represent Cocijo, the Zapotecan counterpart of Tlaloc, the Rain God.

Digitized by Google

A

B

C



Digitized by Google

SEATED FIGURES REPRESENTING COCIJO, THE RAIN GOD.

Vicinity of Oaxaca City.

A

23. 8. 225.
Height 27.4 cm.

B

23. 8. 224.
Height 24.5 cm.

C

23. 8. 222.
Height 23.2 cm.

D

23. 8. 221.
Height 24.6 cm.

Several of the figures reproduced in the foregoing have been provided either with a mask, pls. 5, fig. D; 7 and 24, or with a clip-like contrivance across the nose, pls. 10; 15, fig. B; 18, fig. B; 20, figs. A—B, and 23. The figures in this plate, and in those next following up to and including pl. 29, are similarly equipped.

Masks were in pre-Columbian times widely used in America at dances and ceremonies of mainly religious character, and the custom has not yet altogether died out. Among the Yaqui Indians masks and masked dances have retained their original character, while among other Indians they have been more or less "modernized". It is surprising that these modifications are not more marked, seeing that 400 years have passed since these rites were expurged from the ancient religion. In human representations, both in ceramics, stone sculptures and the codices, the figures are to a great extent wearing masks.

Tlaloc — the Rain God — to whom reference has been made in the foregoing, pp. 78, 85 seq., who, from Central Mexico to Salvador, was one of the oldest and most important of the gods, is in art represented with a very characteristic face. He is generally known by the circular rings he has, like spectacles, round the eyes, a strip with curling ends above his mouth, big canine teeth, and, occasionally, a forked serpent's tongue. In cases these elements are formed by two serpents twisting themselves together in a knot below the nose. The god conceals himself behind various masks, differing in character according to different culture areas and eras, but also capable of varying within them. Certain serpent motives may perhaps derive from the specific attribute of another deity, Quetzalcoatl, the Quetzal bird-serpent. The variations in the Tlaloc representations may also be explained by there being, beside the — so to speak — orthodox Tlaloc, an additional one in every important mountain, worshipped by the neighbouring population. The Aztec name of the Rain God was Tlaloc, while among the Zapotecs he was known as Cocijo.

Digitized by Google

A

B

C

D

Digitized by Google

SEATED FIGURES REPRESENTING COCIJO

Vicinity of Oaxaca City.

A

23. 8. 233.
Height 19.7 cm.

B

23. 8. 223.
Height 27.3 cm.

C

23. 8. 231.
Height 35.1 cm.

D

23. 8. 226.
Height 35.3 cm.

Figures representing Cocijo are often seen wearing an especially characteristic frontlet in the form of a stylized jaguar's face, the jaguar's head motive referred to in the letterpress of several plates in the foregoing. This figure occurs also on stelae, and is by Caso referred to as hieroglyph "C". Stylization has generally been carried very far, its most important elements being the jaguar's nostrils and upper jaw — with or without teeth (frequently deformed). Occasionally the eyes and eyebrows, as well as ear-ornaments, are also depicted. The present stylized jaguar's face possesses certain points in common with the Cocijo representations. Whether any deeper connection exists is however uncertain, because the motive also occurs on quite a number of figures that do not appear to have anything to do with the Rain God. A figure of that kind, with the head and upper part of the body of a realistically depicted jaguar as head-dress, is illustrated by Röck (1929: 367. Cf. also Vaillant 1935 b: 37).

From the four selected examples reproduced in figs. 22—25 it is possible to observe a development of the jaguar's head motive: starting with the fairly naturalistic representation seen in fig. 22, via a more pronounced stylization in fig. 23, and lastly up to the purely ornamental figures, figs. 24—25.

The head-dress of pl. 26, fig. D, is provided with a jaguar's head motive which probably originates from the same mould as that of fig. B, pl. 29. In fact these elements in either case are identically similar.

Digitized by Google

A

B

C

D

Digitized by Google

SEATED FIGURES

Vicinity of Oaxaca City.

A

23. 8. 271.
Height 34.2 cm.

B

23. 8. 229.
Height 41.5 cm.

C

23. 8. 230.
Height 37.5 cm.

What has been said on p. 148 of the attributes of the Rain God mainly applies to Central Mexico. Among the Zapotecs their style is somewhat different, and apparently also slightly varying individually. Cocijo generally lacks Tlaloc's fangs, but instead possesses the forked serpent's tongue. The god's specific attributes are occasionally reduced to some single detail or other, as already touched upon. An exact study of the Rain God in the art products of the ancient Mexican civilizations would in all certainty lead to interesting results, both from the view of history of art and of religion. A course of development is traceable, from that Nature's phenomenon, the rain — whose worship developed locally and gave rise to local deities — to a god with a defined sphere of action, with priests, ritual observances, and sacrifices. Attributes were probable now and again added as the god was being personified in art. There are thus certain reasons for supposing that the serpent elements — the serpent being the symbol of the lightning and the raincloud — at some later period were incorporated with the face of the Rain God.

The purpose of the urns being unknown, it is an open question as to what the masked figures were intended to represent. It has been suggested that they represent gods whose office it was to guide the deceased on his last journey, and to assist him also in other ways. But it seems equally probable that the figures represent priests, or chiefs, attired in the garments worn by them at ceremonies and religious dances where they used to personify gods. In the codices one and the same person occasionally appears both masked and unmasked, in the latter case with the mask by his side. Spinden (1916: 438) has propounded the following theory: "The idea may have been to indicate the semi-sacred character of the deceased priests or nobles by the device of a divine mask".

Regarding pl. 27, figs. B and C it should be pointed out that the faces are identical but for the tongue and part of the nose, and were probably made in the same mould. The tongue has been added as an afterthought, when at the same time the nose was given a slightly different finish.

Digitized by Google

A

B

C

Digitized by Google

SEATED FIGURES

Vicinity of Oaxaca City.

A and D

Figure holding bowl.

23. 8. 236.

Height 47.6 cm.

B and C

Small figure, front and side view.

23. 8. 232.

Height 16.2 cm.

In this plate are depicted, practically to the same scale, the largest and one of the two smallest effigy urns contained in the museum's collections. There are, it is true, however some which are still smaller, but whether they should be classed among the urns may be open to doubt. These miniature vessels consist of a cylinder combined with a flat, standing figure, that is to say of the same type as fig. A in pl. 2, and having a height of 6—10 cm.

The small effigy vessel here reproduced is a typical Cocijo representation, and the jaguar's face set in the head-dress is more complete and less summarily treated than on the majority of the larger figures. Most probably the head-dress as well as the face were made from moulds. The larger figure is holding in front of itself a cup-like vessel with rounded bottom and out-curling rim. As will be seen, it is decorated with a Cocijo image, which in the bottom figure is reproduced in two-third natural size. The body of the image is reduced almost to a mere rudiment, notwithstanding both feet and hands being completed. The facial features are not very distinct, but the character of the face is unmistakable. The head-dress is provided with the jaguar motive in a multitude of senses. In addition to the usual elements there are, it will be seen, five fairly realistic jaguar's noses arranged in a circle round the edge of the head-dress. Vessels of the shape that the figure is holding in its hands are, in spite of their plainness, by no means common in the collections. Lehmann (1922: pl. 35) depicts a standing figure holding a vessel of jaguar-foot type, similar to that extended by a large Xipe figure from Teotihuacan (Linné 1934: fig. 113).

Although the larger urn is of respectable proportions, far larger specimens are, however, known. Saville (1904: 59), for example, found at Cuilapan a Cocijo urn of ordinary type and plain workmanship, but measuring no less than 70.5 cm in height. An exceedingly fine urn, mentioned in the foregoing, of unusual type from Tomb 77 on Monte Alban is 83 cm high (Caso 1935: 26).

Digitized by Google

A

B

C

D

Digitized by Google

SEATED FIGURES HOLDING BOWLS

Vicinity of Oaxaca City.

A	B and C
23. 8. 235.	23. 8. 237.
Height 37.6 cm.	Height 44.4 cm.

Figures holding a vessel to their front form a category by themselves among Zapotecan funerary urns. In shape and general appearance they differ in no respect from seated urns of the ordinary type, but they are comparatively rare. The vessel is always held by them in the same way, clasped by both hands, and in a position suggesting its being about to be offered to the spectator, or that the figure is in the act of raising it to his mouth, or else just holding it up before him. Which of these alternatives is the correct one is impossible of determination until a clue is provided by some fresh find. That these urns allude to, or were used in, some ritual observance seems probable seeing that all of them, so far as I know, are more or less markedly of Cocijo character. They appear to belong to a definite category whose connection with the Rain God above all consists of a special serpent motif, as seen in the figures, viz. two stylized serpents entwined into a knot across the nose. Serpent motives also occur in the head-dresses. The vessels thus held by the figures appear to belong to a fairly constant type, with rounded bottom and out-curling rim. A peculiar detail is the frequently occurring strip or ribbon, with engraved pattern, hanging in a sagging bow from knee to knee over the unusually broad loin-cloth. Whether behind the partioning of the ribbon, usually in 7 sections, there is any mysticism pertaining to numerals also remains an open question.

Figures of different types, holding clay vessels in front of them, also occur in other regions, although they are by no means common. Such figures are represented from Central America, Colombia, Venezuela, Ecuador, the Peruvian coast, and Northern Argentina.

Digitized by Google

A

B

C

Digitized by Google

CLAY VESSELS WITH ZOOMORPHIC DECORATION

A and B

Vicinity of Oaxaca City.
23. 8. 284.
Height 16.1 cm.

C

Vicinity of Oaxaca City.
23. 8. 287.
Height 20.3 cm.

D and E

San Francisco Telixtlahuaca,
Distrito de Etla.
13. 8. 6.
Height 25.6 cm.

As already has been mentioned, the urns may as regards the figures be divided into two main groups, viz. zoomorphic and anthropomorphous, of which the latter is incomparably the larger. Of the Zapotecan collections in Museo Nacional, Mexico City, which about ten years ago contained 1583 exhibits, the anthropomorphic vessels according to Eduardo Noguera (1930: 274) numbered 660, that is, 42 %. The zoomorphic vessels only totalled 256, equalling 16 %. For the sake of comparison a glance at the Aztec material may be of interest. At that time the latter collection amounted to 955 exhibits, and of this total anthropomorphous and zoomorphic vessels only represented 5 and 4 %, respectively. Another remarkable circumstance is that never has there been recovered a single animal figure with a human head, although the reverse is by no means unknown.

Zoomorphic urns do not exhibit such a high degree of variety as those with human representations. The range of models stops within a fairly narrow margin, such as jaguars or coyotes, turkeys and monkeys. The first-mentioned are by far the most numerous. Both as regards technique and material they entirely conform to the anthropomorphous category. The zoomorphic urns either consist of entire vessels of animal shape, the figure screening the urn, or simply of details attached to vessels, like those here depicted. Of these, fig. C may possibly have served as an incense-burner. Ornamentation consisting of spiky projections or bosses occurs sporadically in Mexico and Central America, in the Southwest and in the middle Mississippi Valley and in Colombia and Ecuador. As regards its symbolically sacred significance various theories have been advanced (cf. Lehmann 1916: 338; Dieseldorff 1926: pls. 19, 34; Schellhas 1926: 6).

Digitized by Google

Digitized by Google

COUCHANT JAGUAR FIGURE

Tuxtepec
23. 8. 307.
Height 37.9 cm.
Length 31.9 cm.

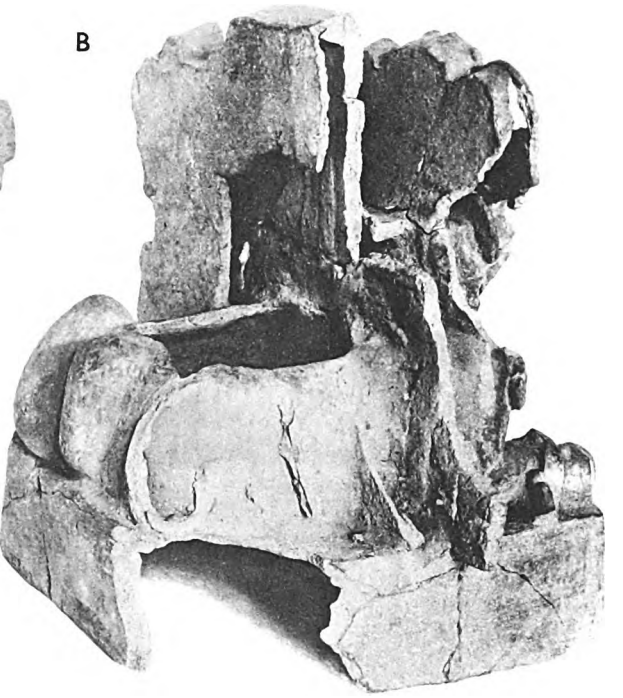
This in many respects interesting urn was especially badly damaged in its transportation to Sweden, in direct consequence of the senseless way in which it had been packed by the forwarding agents (cf. p. 98). The provenance of this find is especially interesting by reason of its being situated outside the Zapotec area proper, seeing that the Tuxtepec neighbourhood, at all events at the time of the conquest, was inhabited by Chinantecs.

So far as I am able ascertain, this urn is unique, although being undoubtedly Zapotecan both in style and technique. It evidently represents a jaguar lying down, in a couchant position, on top of a box-like base, open at the bottom. Covering the face, which was of jaguar character — the ears are, among other things, exceedingly typical — was originally a mask of pure Cocijo type.

No direct counterpart of this is known to me although the figure possesses certain features in common with one found above the entrance to a grave-chamber at Xoxo (Peñafiel 1890, vol. 2: pl. 132). Figures to a certain extent similar are known from Teotihuacan, viz. couchant stone jaguars (Gamio 1922, tomo 1, vol. 1: pl. 25). The British Museum possesses a jaguar, made of tecali (Puebla marble) and also originating from Teotihuacan, which has two large depressions in its back (Seler 1915: fig. 15; Joyce 1927: 79). From Aztec times dates a similar, frequently depicted, exceedingly beautiful, colossal stone figure in Museo Nacional, Mexico City, which has a bowl-shaped depression in the back (Lehmann 1922: pl. 9). Possibly affinity also exists between it and the jaguar figure, "tiger-altar", recently discovered within the temple of Kukulcan at Chichen Itza (The Illustrated London News, July 3, 1937).

As will be seen from our figures, the ordinary cylinder is here replaced by the hollow body of the jaguar. The figure has been built up with a number of independently moulded parts, as can be seen from the knocked-off right hind-leg which, like the rest of the limbs, was hollow. Behind the head and forelegs is erected a large screen, likewise hollow, with a rectangular aperture above the cavity in the back. This screen is only ornamented on the front side, and this figure, too, has been made in accordance with the prevalent rule of only being viewed from the front. The front was originally painted red, and certain parts also seem to have been decorated with greenish-blue paint.

Digitized by Google



Digitized by Google

STANDING JAGUAR FIGURES

Vicinity of Oaxaca City.

A and B	C and D
23. 8. 283.	23. 8. 282.
Height 18.7 cm.	Height 23.6 cm.

These urns, in which the cylinder has coalesced with an animal figure, form a fairly numerous group whose members are often exceedingly alike. The top one is coated with red paint, while the surface of the other is almost black, a colour it probably acquired in the firing. Typical of these dramatically expressive jaguar figures is that the heads show a considerable degree of realism, while the bodies, on the other hand, form a compromise between an animal and a human being. The bodies are of a male character — as indicated by the loincloth — but in spite of the dress there is at least one specimen which at the same time has a definitely female cast of features (Rickards 1921: fig. 21). Instead of hands and feet they are frequently provided with jaguars' paws, often highly naturalistic. In both these figures the breast ornaments are exactly similar. The ears of the bottom figure are ornamentally remodelled.

In a number of instances the right ear has been reshaped, given a horn-like character, etc. (Dieseldorff 1926: pl. 46; Krickeberg 1922: fig. 72), and occasionally these figures are fitted out with large head-dresses (Saville 1904: 50). One figure (Fuhrmann 1922: pl. 50) is in either ear-plug wearing a corn-cob, a possible indication of the jaguar having been a harvest-god of the Zapotecs. Among the Mayas the jaguar represented the sun both in the Old Empire and the New (Seler 1902: 385—386, 719, 794), and even among the Huichol Indians it belongs to the animals that are dedicated to the sun. This being so, it is not impossible that even among the Zapotecs the jaguar was a representative of the sun and therefore worshipped as a harvest-god, because the sun causes the maize to ripen. Caso supposes that the jaguar was the specific god of Monte Alban, "el dios de Monte Albán, el tigre" (Caso 1937: 137).

In Indian religious conceptions and myths no sharply defined distinction was ever made as between humans and animals. It is therefore not surprising that a proportion of the animal figures are carrying ornaments of the same kind as those found on the anthropomorphous urns. Whether this should be accounted for by their having been representations of gods, or totem animals, appears difficult to determine with certainty. We are here confronted with a bygone world of conceptions, the secrets of which we are unlikely ever to succed in wholly fathoming.

Digitized by Google

Digitized by Google

Digitized by Google

SUMMARY AND CONCLUSIONS

Anyone making a superficial acquaintance with the ancient Zapotecs, such as they appear to us principally through the medium of the figures an their funerary urns, is apt to get an impression of a peculiar culture and an original and bizarre art. With increased knowledge of the Zapotecan culture, and after an analysis of the elements of which it is built up, such an apprehension will in many respects become modified.

It is not yet possible to obtain a complete and true picture of a civilization so highly developed as that of the Zapotecs. The material is all too insufficient, and of that which is available a certain proportion no doubt needs to be sifted and critically examined. By giving some rein to imagination a good many "white spots" might of course be filled in. But this method, which has been known to have been cherished by culture students now and then, tends to throw light on the specific quality of their own minds rather than on that of the people whom they profess to describe.

In the following will be summarized the result of the analyses — unfortunately all too incomplete — that have been made in the foregoing. Quite possibly the writer will be accused of being unable to emancipate himself from the almost universal practice of not admitting that any invention or discovery has seen the light of day within the limits of the area dealt with. Rightly or wrongly, most students have adopted the method, more modest than directly productive of results, of assuming that the culture elements were imported from regions outside their own particular area under research, regions with which they are less acquainted. But it must nevertheless be admitted that the Zapotecs undoubtedly cannot be counted among the leading "culture-makers" of the New World. Their most important role rather appears to have been that of intermediaries with respect to cultural impulses, particularly to the highlands of central Mexico. Authenticated instances are however in existence of their having been originators, but then as traders rather than inventors or discoverers. For example, they exported copper objects to Yucatan, and possibly also to the Peten, Guatemala, and Salvador.[1] Feather ornaments, gold, jade, etc., they carried to the Aztecs. Jade objects besides bear evidence of trading intercourse having existed already in the time of the Early Cultures between the Valley of

[1] Lothrop 1936: 75—76.

Digitized by Google

Mexico[2] and Oaxaca, as also during the era of the Teotihuacan culture.[3] Commerce appears on the whole as having played an exceedingly important part in ancient times.[4] Old trading routes could even to-day be mapped out, seeing that in many parts the inhabitants are making long journeys for the purpose of taking their products to market, frequently no doubt actuated by tradition more than pecuniary gain. The Zapotecs cannot however be said to have been altogether incapable of artistic creation, but that in this respect they influenced even their nearest neighbours appears improbable.

Zapotecan culture appears built up on the same — or similar — foundation as that of the inhabitants of the remainder of Mexico and Central America. Later elements have been added, elements which were common at least to the higher cultures within this part of America. Later still there are discernible influences and impulses from the Teotihuacan culture, the Mayas, and perhaps also from the highest-cultured peoples of South America. Some few elements have originated, or at any rate reached their highest development, within the Zapotecan area. This is above all reflected in the funerary urns. On Monte Alban it has been possible to observe the main features of cultural development through the five consecutive periods that have been explored and defined by Caso. As to the dating of these periods, fascinating suggestions have been made by Vaillant.

Certain elements of the Zapotecan culture have in the foregoing been subjected to a somewhat more detailed treatment by means of comparative studies. If this method were systematically carried out in connection with the taking of an inventory as complete as possible of the material culture, profitable results would in all probability be obtained. The main object of the analyses that have been made here has been to widen the horizon by — rightly or wrongly — establishing the influence of culture waves on "national cultures".

That the Zapotecs received strong impulses from the Mayas during the latter's first era of greatness is obvious and has long been asserted. Among other things has been pointed out the close correspondence between the planning of Monte Alban and the town plan of Mayan cities. Even more obvious are perhaps stelae, their figures in relief, hieroglyphs and numerical signs, and tonalamatl (or, more correctly, tonalpohualli), the fundamental chronological cycle of 260 days. The ball court on Monte Alban is also connected with the earlier type of structures of this class that were in use in the days of the "Old Empire". In the ceramic art as well as in the religion there are points of contact and correspondences. Mayan influence is principally observable during the third period on Monte Alban, and as early as in 1913 Spinden pointed out that this place "was synchronous to the first great Maya cities, or slightly subsequent".[5] The connection that, rightly or wrongly, is supposed to exist between the mosaic decoration of the Mitla buildings and similar ornamentation of, for instance, the buildings at Uxmal must however be referred to a later period. Striking

[2] Vaillant 1930: 49; 1935a: 244. [3] Linné: 1934: 131. [4] Termer 1922: 557—568. [5] Spinden 1913: 226.

Digitized by Google

points of contact are also found between Mayan and Zapotecan tales.[6] Certain elements, such as the 260 days' chronological cycle, were directly incorporated with Zapotecan culture while others, such as the hieroglyphs, were remodelled and passed through local development.

The Teotihuacan culture is in actual fact represented among the pottery material of the third Monte Alban period. But the Zapotec ceramics reveal that the connection was not of a casual character. The resemblance between the funerary urns with all their appurtenances — the cylinder, the figure and the rest of screen-like arrangements — and the complicated incense-burners of the Teotihuacan culture is therefore not fortuitous. An exceedingly important task waiting to be undertaken would be that of discovering, through field-work in intermediate districts, further points of contact between the Zapotecan and the Teotihuacan cultures.

By means of recent years' excavations and researches at Cholula exceedingly important discoveries have been made as regards the last mentioned culture. This applies both to the stratigraphic excavations and to the results obtained through the tunnels that have been cut into the great pyramid, in the course of which, among other things, extensive remains of earlier architectural structures have been discovered. As the ceramic material is to be published by Mr. Eduardo Noguera, one of the leading archaeologists of Mexico, expectations may well be set very high. But strangely enough it does not seem as if the contact had been particularly intensive between Cholula and the Zapotec country. On that point Noguera writes in his preliminary report: "Por lo que se refiere a las relaciones con la región Zapoteca, sólo contamos con unos cuantos fragmentos de un estilo netamente zapoteca de un barro gris de magnífico pulido y cocimiento el que acusa de manera clara su procedencia de la región comparada. Aunque todavía no estamos preparados para decir en definitiva la época a que corresponden esos fragmentos, con relación a las etapas de desarrollo de la cultura zapoteca, por no haberse terminado el estudio sobre las exploraciones estratigráficas efectuadas en Monte Alban en años pasados, sí podemos decir que esta clase de barro corresponde a las más recientes de esa cultura conforme se halla representada en esa ciudad (posiblemente a la Epoca IV, de Caso).[7]

That on the other hand a very intimate connection existed between Teotihuacan and the Zapotec region is also apparent from finds and researches of the most recent times. As to this, in a lately published treatise Caso has shown that hieroglyph-resembling figures, mostly on earthenware objects, and paintings in fresco at Teotihuacan, possess counterparts among the Zapotecs.[8] During the excavation season 1935—36 there was found on Monte Alban a stone slab inscribed with hieroglyphs which partly recur at Teotihuacan, and also two figures. One of these, representing a jaguar in upright pose, Caso supposes to be "el dios de Monte Albán", while the other is almost identical with the figures in the frescoes — now unfortunately so badly damaged — at Teopancaxco near Teotihuacan.

[6] Thompson 1930: 181. [7] Noguera 1937: 12—13. [8] Caso 1937: 131—143.

Digitized by Google

In the working season 1936—37 some extremely important finds were made on Monte Alban. The walls of the grave-chambers, Nos. 103—105, were found to be decorated with well-preserved paintings. On the wall facing the entrance of Tomb 104, as well as on the adjoining parts of the side walls, there are hieroglyphs and figures of pure Zapotecan style. Next to the entrance, on each of the long walls had been placed a standing figure very closely akin to the figures at Teopancaxco. These tombs date from Period III of Monte Alban. It is not improbable that in a grave-chamber at Xoxo, Saville in 1898 discovered paintings of a similar type. So far as I am aware he has never published them in detail, but only mentions them in his summary report of the work.[9]

In the course of the work carried out for the Ethnographical Museum of Sweden by the expedition of 1934—35, in a ruined site then discovered Calpulalpan in the north-western part of the state of Tlaxcala, was recovered an earthenware bowl with ornaments in fairly high relief. Here, too, occur, in quadruplicate, these Teopancaxco figures. From a geographical point of view this find occupies an intermediate position between Teotihuacan and Monte Alban.[10]

But Teotihuacan extended its influence still farther, since from Guatemala and western Salvador we have artifacts, above all clay vessels, which stylistically altogether agree with the types that are so specifically characteristic of this culture.[11] The excavations that were carried out near Guatemala City under the leadership of Dr. A. V. Kidder, on behalf of the Carnegie Institution of Washington, have produced fresh evidence.[12] Mr. E. P. Dieseldorff, of Coban, has been kind enough to inform me, and to illustrate by means of photographs, "that the pottery from Teotihuacan is with regard to forms very similar to that from the district of Quezaltenango".[13] These artifacts, which are connected with the Teotihuacan culture, "may be attributed to the Pipil. The various tribes grouped under this name spoke the Nahua tongue, and, according to tradition, they were descended from Toltecs who had migrated from central Mexico in the 11th century A. D."[14] Those Pipil appear to have immigrated into Guatemala during different periods but nevertheless differ altogether from later Mexican invaders who, inter alia, introduced Aztec gods, frequently depicted in their pottery.[15] But in association with these "Toltec" elements in Guatemala it is also possible to discern Zapotecan stylistic features, as, for example, in the art of stone carving. Most probably those "Toltecs" at least in part immigrated via Oaxaca and then brought with them Zapotecan elements. The date of their emigration also confirms Vaillant's dating of the various Monte Alban periods seeing that the Teotihuacan elements only made their appearence there during Period III,cf. p. 94.

In the foregoing has also been stressed that certain elements are common to the

[9] Saville 1899: 359. [10] Linné 1936: fig. 3; 1937: fig. 22. [11] Saville 1930; Termer 1931; Lothrop 1936.
[12] "Important Maya Discovery in the Guatemala Highlands". Maya Research. Vol. 3, No. 2, 1936, pp. 177 seq. [13] In a letter to the author, dated 29 October, 1926. [14] Lothrop 1936 a: 148.
[15] Lehmann 1920, vol. 2: 978 seq.; Sapper 1936: 78 seq.; Termer 1936: 108 seq.

Digitized by Google

Zapotecs and the South American high cultures. That in the New World — apart from eastern North America, where the Indians only knew cold-hammered copper in its native state — the art of metallurgy originated and developed in western South America is nowadays accepted as certain. At late date it was introduced into Central America and Mexico — bronze, for example, only shortly before the Discovery — but not only technical methods but also certain types, such as gold plumes and crowns, tweezers and "axe money" of copper, were imported from Peru. Possibly even influence from Colombia is traceable in those fish-hooks of gold and axes of gold alloy that were acquired on Juan de Grijalva's exploring expedition in 1518. A quantity of golden objects that were recovered in the Cenote of Sacrifice at Chichen Itza, and in part preserved in the Peabody Museum at Cambridge, Mass., are stated to originate from Colombia and Panama (Chiriqui).

It can hardly be due to mere accident that the double-bodied jar, the type of clay vessel so characteristic of the Peruvian coast also occurs in Mexico and Guatemala.[16] In addition to Monte Alban these vessels are also known from a number of places in Oaxaca, such as Ixtlán, Ejutla, Zimatlán and Ocotlán,[17] as well as from other archaeological sites in Mexico, such as Calpulalpan[18] and Teotihuacan.[17] Some of these double jars are exceedingly closely allied to the Peruvian ones of Late Chimu style.

A series of elements common to the Central American and Mexican cultures could easily be marshalled up, and the problem of reciprocal influence has been dealt with repeatedly.[19] In the foregoing have in detail been discussed certain other pertinent matters, such as purple-dyeing, turban-like hairdressing,[19a] and certain stylistic resemblances, as between the mosaic facades of Mitla and the wall decoration of Chanchan, as well as between certain ceramic patterns.[20] The migrations of these elements from south to north and vice versa are no doubt difficult of determination, and must be ascribed to various causes. Commerce has naturally played a prominent part. Excellent evidence of this is provided by the golden objects of Peruvian origin that were recovered in Tomb 7 on Monte Alban — provided that Lothrop's argumentation proves unassailable.

From the coastlands of Peru and Ecuador we have legends of invasions from the north, and not of the character of myths, but rather of traditions, although they are vague. While certain elements among the Cuna Indians of Panama and north-western Colombia, above all picture-writing, bear witness of connection northwards, the noteworthy archaeological finds in the province of Coclé are rather pointing to South America.[21] It may well be conceived, at any rate theoretically, that offshoots of the high civilizations in the north and in the south might in Panama have come

[16] Lehmann 1912: fig. 31; Lothrop 1936: figs. 13, 17, 92.

[17] Museo Nacional, Mexico City. [18] Linné 1937: fig. 23.

[19] Cf. Uhle 1922, 1923, 1923 a, 1925, 1927, 1930, 1931, 1935; Röck 1924; Krickeberg 1928, 1935; Jijón y Caamaño 1930; Nordenskiöld 1930 and 1931; Kroeber 1930; Thompson 1936: 13 seq. [19a] Uhle 1922 a: 5, mentions such hairdressings from Pisagua (cf. p. 61). [20] Joyce 1914: 191—192; fig. 41; Uhle 1935: 27. [21] Lothrop 1937.

Digitized by Google

into contact with one another. The large sail-fitted raft, carrying merchants and trade goods, that Bartolomé Ruiz in 1526 met off the coast of Ecuador on his first advance on Peru, was northward bound. Its cargo consisted of a variety of articles of barter, including black-ware pottery, ornaments of gold and silver, mirrors, weavings with bird and fish figures, dye stuffs, etc.

The Huave Indians inhabiting the district about the lagoons east of Tehuantepec differ from their neighbours both in language and culture, and have, according to their traditions, immigrated from far distant southern regions. But on the Pacific coast and in the north-western part of Mexico[22] there occur even other features, as yet difficult of specification, which possibly point to connections with the far south.

Other elements associated with the Zapotecs are also found among tribes on different levels of culture and of different parts of America. The continuity of their distribution we are unable to discern, probably because of their high antiquity. One such element is the secondary burial practised by the Zapotecs. Whether this burial custom also applied to the common people, and not exclusively to such persons of high station as were accorded a last resting place in the grave-chambers, appears to be an open question. Trepanation, which reached its highest development in Peru, should by reason of its sporadic occurrence even in the far north of North America be credited with considerable antiquity. Deformation of the teeth appears to be a comparatively ancient custom, although its area of distribution is restricted. This custom, which was characteristic of Mexico and Central America, at a late period extended down to Ecuador, this being the only offshoot from its compact area of distribution. That it should have come across the sea from south-eastern Asia appears exceedingly improbable. This, in conclusion, brings us to the much debated question of cultural transmission from the Old World to America.

Certain elements also, as we know, occur in the Old World. A matter in dispute has ever been, and will so remain, whether this fact is to be explained by one and the same invention having been repeatedly and independently made, or whether it saw the light of day at one place only, and from that was spread far and wide by diffusion. Both schools have had their supporters, and for the present the diffusion theory predominates. Perhaps the truth lies midway between, as even the most confirmed adherent of the diffusion theory must, I take it, think twice about referring the origin, of for instance, the Mexican pyramids to Egypt. And this not only by reason of the immense distance both as regards time and space, but also because the motives of the buildings, as well as the use to which they were put, are entirely different, and also because there are to be found in Mexico archaic, and humble, prototypes of the gigantic, temple-supporting pyramids of the late high cultures.

In dealing with these questions one is tempted to use that most unscientific expression of it being "a matter of taste". Frequently one has the feeling that the universe, as the theorist pictures it to himself, shrinks to the dimensions of his writ-

[22] Cf. Beals 1932.

Digitized by Google

ing-table. Countries and peoples, ancient times and modern, get dangerously close to each other when standing side by side on the bookshelves in his library.

Seeing that the Indians are the authors of quite a respectable number of inventions that were *unknown* in the Old World, they ought to have been able to contrive also such inventions as had already been made there. If there was a lively importation, one cannot but wonder at the selection. Many ancient, important, and easily transportable elements never found their way to America. The South Sea navigators must after their long voyage have been in possession of an amazing activity as well as an unparalleled knack of getting on intimate terms with the Indians. Those voyages must have begun at a very early date, and the baggage must have been both extensive and heterogenous. Part of it besides must have passed through the island world exclusively as goods in transit, from consignors farther west. By way of Bering Strait a great many culture elements have no doubt at various times entered America from northern Asia, but they can hardly be said to recur among the American high cultures.

In the foregoing has been pointed out that the use of red paint in connection with funerary customs dates back to the earliest periods of mankind. The red colour in the cult of the dead and in magic, as well as the conception of the dog as a guide and a helpful companion on the passage to the kingdom of death, may well have been inherited from the first discoverers of the New World. The ceremony described in the foregoing, at which the choicest corn-cob of the maize field is worshipped, preserved to next year's sowing, and then returned to the earth in order to insure another good harvest, has its direct counterpart among many peoples of the Old World. That the art of agriculture was independently developed in America must, I think, be regarded as certain — against this hardly any protests have so far been heard. This conception as to the preservation and transference of the vegetative power must either be supposed to have unaided found its way to the Indian agriculturists, or else we must content ourselves with accepting that this fairly universal notion has independently arisen in a number of different places.[23]

Through folktales and legends, through traditions and historical accounts, as well as through the testimony furnished by the archaeological and ethnographical, the anthropological and linguistical material of cultural intercourse and migrations, there runs a maze of threads not yet, or only to a certain extent, unravelled. The researcher that works on a purely theoretical basis is likely to be tempted to sail over wide waters, and if he then lacks the requisite ballast of dry facts he is apt to get shipwrecked. The close student of detail, as also the field-worker, is apt to dig himself down and get stuck fast. Here, as in all other realms of scientific research, it is necessary to combine facts with imagination, and with humility and circumspection try to pick up and follow the Ariadne thread that will guide one out the labyrinth into daylight.

[23] Cf. Hammarstedt 1927: 40—50.

Digitized by Google

BIBLIOGRAPHY[1]

ADÁN, E.

1927. Nota acerca de unas piedras talladas de aspecto prehistórico, procedentes de Mitla, Estado de Oaxaca (Anales del Museo Nacional de Arqueología, Historia y Etnografía, cuarta época, tomo 5, pp. 156—167, Mexico 1927).

ANDRADE, VICENTE DE P.

1912. Idolatrías y supersticiones de los indios (Reseña de la segunda sesión del 17 Congreso Internacional de Americanistas, México 1910, pp. 287—294, México 1912).

ANGULO, JAIME DE.

1925. Kinship terms in some languages of southern Mexico (American Anthropologist, n. s. vol. 27, pp. 103—107, Menasha 1925).

APENES, OLA.

1936. Possible derivation of the 260 day period of the Maya calendar (Ethnos, vol. 1, pp. 5—8, Stockholm 1936).

ARAGON, JAVIER O.

1931. Expansion territorial del Imperio Mexicano (Anales del Museo Nacional de Arqueología, Historia y Etnografía, cuarta época, tomo 7, pp. 5—64, Mexico 1931).

ARANGO, C. LUIS.

1918. Recuerdos de la guaquería en el Quindío. Barcelona 1918.

ARSANDAUX, H.

1919. See Créqui-Montfort, Rivet et Arsandaux 1919.

ARSANDAUX, H. et RIVET, P.

1921. Contribution à l'étude de la métallurgie mexicaine (Journal de la Société des Américanistes de Paris, n. s. tome 13, pp. 261—280, Paris 1921).

1923. Nouvelle note sur la métallurgie mexicaine (L'Anthropologie, tome 33, pp. 63—85, Paris 1923).

AYMÉ, LOUIS H.

1882. Notes on Mitla (Proceedings of the American Antiquarian Society, n. s. vol. 2, part 1, pp. 82—100, Worcester 1882).

BALSALOBRE, GONZALO DE.

1898—1899. Relación auténtica de las idolatrías, supersticiones, uanas observaciones de los Indios del Obispado de Oaxaca (Anales del Museo Nacional de México, primera época, tomo 6, pp. 225—260, México 1892).

BANCROFT, HUBERT HOWE.

1875—76. The native races of the Pacific States of North America, 5 vols, London 1875—76.

1883—1888. The history of the Pacific States of North America, vols. 4—9 (Mexico, vols. 1—6). San Francisco 1883—1888.

BANDELIER, ADOLPH F.

1884. An excursion to Mitla (Papers of the Archaeological Institute of America, American Series, vol. 2, Boston 1884).

1884 a. Report of an archaeological tour in Mexico in 1881 (Papers of the Archaeological Institute of America,

[1] Speaking generally, the exceedingly rich literature dealing with the Zapotec language has not been included in the bibliography here given. References to some of the more important linguistic works that are also provided with extensive bibliographies are to be found on p. 15. Certain early works of the very greatest importance treating of the Zapotecs I have unfortunately not had access to. Among these is: Francisco de Burgoa, "Geográfica descripción de la parte septentrional, del polo artico de la América, y nueva iglesia de las indias occidentales, y sitio astronómico de esta provincia de predicadores de Antequera, valle de Oaxaca", Mexico 1674.

Digitized by Google

American Series, vol. 2, Boston 1884).

1906. Über Trepanieren unter den heutigen Indianern Bolivias (Internationaler Amerikanisten-Kongress, vierzehnte Tagung, Stuttgart 1904, pp. 81—89, Stuttgart 1906).

BARNARD, J. G. and WILLIAMS, J. J.

1852. The Isthmus of Tehuantepec. New York 1852.

BASLER, ADOLPHE et BRUMMER, ERNEST.

1928. L'Art précolombien. Paris 1928.

BASTIAN, A.

1878—1888. Die Culturländer des alten America. 3 vols. Berlin 1878—1888.

BATRES, LEOPOLDO.

1902. Explorations of Mount Alban, Oaxaca, Mexico. Mexico 1902.

1908. Civilización prehistórica de las riberas del Papaloapam y Costa de Sotavento, Estado de Veracruz. Mexico 1908.

BAUER(-THOMA), WILHELM.

1908. Heidentum und Aberglaube unter den Maçateca-Indianern (Zeitschrift für Ethnologie, Band 40, pp. 857—865, Berlin 1908).

BAUER-THOMA, WILHELM.

1916. Unter den Zapoteken und Mixes des Staates Oaxaca der Republik Mexico (Baessler-Archiv, Band 5, pp. 75—97, Leipzig und Berlin 1916).

BEALS, RALPH L.

1932. The comparative ethnology of northern Mexico before 1750 (Ibero-Americana: 2, Berkeley 1932).

1934. A possible culture sequence at Mitla, Oaxaca (American Anthropologist, n. s. vol. 36, pp. 89—93, Menasha 1934).

BECERRA, MARCOS E.

1933. El antiguo calendario chiapaneco (Universidad Nacional de México, núms. 29—30, pp. 291—364, Mexico 1933).

BELMAR, FRANCISCO.

1905. Lenguas indígenas de México. Familia Mixteco-Zapoteca y sus relaciones con el Otomí. Familia Zoque-Mixe. Chontal. Huave y Mexicano. México 1905.

BERENDT, H.

1873. Die Indianer des Isthmus von Tehuantepec (Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte. Zeitschrift für Ethnologie Band 5, pp. 146—153, Berlin 1873).

BERGSØE, PAUL.

1937. The metallurgy and technology of gold and platinum among the Pre-Columbian Indians (Ingeniørvidenskabelige Skrifter, Nr. A 44, pp. 1—45, København 1937).

1937 a. Hvorledes fortidens indianere lavede sig smykker af guld og platin (Fra Nationalmuseets arbejdsmark 1937, pp. 35—48, København 1937).

BEUCHAT, H.

1912. Manuel d'archéologie Américaine. Paris 1912.

BEYER, HERMANN.

1920. Una pequeña colección de antigüedades mexicanas (El Mexico Antiguo, tomo 1, núm. 6, pp. 159—197, Mexico 1920).

1922. Sobre una plaqueta con una deidad Teotihuacana (Memorias y Revista de la Sociedad Científica "Antonio Alzate", tomo 40, núms. 10—12, pp. 549—558, Mexico 1922).

1930. A deity common to Teotihuacan and Totonac cultures (Proceedings of the twenty-third International Congress of Americanists, New York 1928, pp. 82—84, New York 1930).

BLAKE, W. W.

1891. The antiquities of Mexico. New York 1891.

BLOM, FRANS.

1932. The Maya ball-game Pok-ta-pok, called Tlachtli by the Aztec (Middle American Papers, Middle American research series, publication no. 4, pp. 485—530, The Tulane University of Louisiana, New Orleans 1932).

1934. Summary of archaeological work in the Americas 1931—1932—1933. II. Middle America (Bulletin of the Pan American Union, December, 1934, pp. 861—882, Washington 1934).

1934 a. A Maya skull from the Uloa valley, Republic of Honduras. Historical background (Studies in Middle America, Middle American research series, publication no. 5, pp. 7—14, The Tulane University of Louisiana, New Orleans 1934).

BLOM, FRANS and LA FARGE, OLIVER.

1926—1927. Tribes and temples. A record of the expedition to Middle America conducted by the Tulane Univer-

Digitized by Google

sity of Louisiana in 1925. 2 vols. (The Tulane University of Louisiana, New Orleans 1926—1927).

BOEKELMAN, HENRY J.
1936. Shell trumpet from Arizona (American Antiquity, vol. 2, no. 1, pp. 27—31), Menasha 1936).

BOMAN, ÉRIC.
1908. Antiquités de la région andine de la République Argentine et du désert d'Atacama. 2 vols. Paris 1908.

BRUMMER, ERNEST.
1928. See Basler et Brummer 1928.

BRÜHL, GUSTAV.
1875—1887. Die Culturvölker Alt-Amerika's. New York, Cincinnati, St. Louis 1875—1887.

BURGOA, FRANCISCO DE.
1904. Palestra historial de virtudes, y exemplares apostólicos. Mexico 1670 (Biblioteca Mexicana, Histórica y Lingüística. Publicada por el Museo Nacional de México. Cuaderno tercero. México 1904).

BUSCHAN, GEORG.
1937. Die Trepanation bei den primitiven Völkern (Sonderabdruck aus Ciba Zeitschrift, Nummer 37, pp. 1—7. Berlin 1937).

BUTLER, MARY.
1931. Dress and decoration of the Maya Old Empire. A study of stone carvings with some comparison of corresponding features on pottery and jades (The Museum Journal, Museum of the University of Pennsylvania, vol. 22, no. 2, pp. 154—183, Philadelphia 1931).
1936. Ethnological and historical implications of certain phases of Maya pottery decoration (American Anthropologist, n. s. vol. 38, pp. 452—461, Menasha 1936).

CARREÑO, ALBERTO M.
1912. La trepanación entre nuestros aborígenes (Reseña de la segunda sesión del 17 Congreso Internacional de Americanistas, México 1910, pp. 113—119, México 1912).

CASO, ALFONSO.
1927. El vaso de jade de la colección Plancarte (Revista Mexicana de Estudios Históricos, tomo primero, pp. 7—18, Mexico 1927).
1927 a. Una pintura desconocida de Mitla (Revista Mexicana de Estudios Históricos, tomo 1, pp. 243—247, Mexico 1927).
1928. Las estelas Zapotecas (Publicaciones de la Secretaría de Educación Pública. Monografias del Museo Nacional de Arqueología, Historia y Etnografía). Mexico 1928.
1932. Las exploraciones en Monte Alban. Temporada 1931—1932 (Instituto Panamericano de Geografía e Historia, publicación no. 7, Mexico 1932).
1932 a. Monte Albán, richest archeological find in America (The National Geographic Magazine, vol. 62, no. 4, pp. 487—512, Washington 1932).
1932 b. Reading the riddle of ancient jewels (Natural History, vol. 32, pp. 464—480, New York 1932).
1934. Las tumbas de Monte Alban (Secretaría de Educación Pública, Publicaciones del Museo Nacional. Sobretiro del no. 4, tomo 8, época 4, de los Anales del Museo Nacional de Arqueología, Historia y Etnografía, pp. 3—9, Mexico 1934).
1935. Las exploraciones en Monte Alban. Temporada 1934—1935 (Instituto Panamericano de Geografía e Historia, publicación no. 18, Mexico 1935).
1937. Tenían los Teotihuacanos conocimiento del Tonalpohualli? (El Mexico Antiguo, tomo 4, núms. 3—4 pp. 131—143, Mexico 1937).

CASO, ALFONSO Y RUBÍN DE LA BORBOLLA, D.F.
1936. Exploraciones en Mitla 1934—1935 (Instituto Panamericano de Geografía e Historia, publicación no. 21, Mexico 1936).

CHARNAY, DÉSIRÉ.
1863. Cités et ruines américaines: Mitla, Palenqué, Izamal, Chichen-Itza, Uxmal. Recueillies et photographiées par Désiré Charnay avec une texte par M. Viollet-le-Duc. (With one atlas of plates). Paris 1863.
1885. Les anciennes villes du Nouveau Monde. Voyages d'exploration au Mexique et dans l'Amérique Centrale par Désiré Charnay 1857—1882. Paris 1885.
1887. The ancient cities of the New World, being travels and explorations in Mexico and Central America from 1857—1882. New York 1887.

Digitized by Google

CHAVERO, ALFREDO.
1887. México á través de los Siglos. Tomo 1. México 1887.
CHRISTENSEN, BODIL.
1937. The Acatlaxqui dance of Mexico (Ethnos, vol. 2, no. 4, pp. 133—136, Stockholm 1937).
CLAVIGERO, FRANCESCO SAVERIO.
1780—1781. Storia antica del Messico. 4 volumes. Cesena 1780—1781.
CLÉMENT, ANDRÉ.
1932. Note sur la dureté des haches précolombiennes de l'Équateur et du Mexique (Journal de la Société des Américanistes, n. s. tome 24, pp. 85—91, Paris 1932).
1935. Contribution à l'étude de la métallurgie precolombienne (Journal de la Société des Américanistes, n. s. tome 27, pp. 417—458, Paris 1935).
CODEX BORGIA.
1904—1909. See Seler 1904—1909.
CODEX MENDOZA.
1831. Copy of the collection of Mendoza, preserved in the Bodleian Library at Oxford (Lord Kingsborough, Antiquities of Mexico: Comprising facsimiles of ancient Mexican paintings and hieroglyphics... together with the monuments of New Spain, vol. 1, London 1831).
CODEX NUTTALL.
1902. Codex Nuttall. Facsimile of an ancient Mexican codex belonging to Lord Zouche of Harynworth, England. With an introduction by Zelia Nuttall (Peabody Museum of American Archaeology and Ethnology, Harvard University, Cambridge 1902).
CODEX TELLERIANO-REMENSIS.
1831. Copy of the Codex Telleriano-Remensis, preserved in the Royal Library at Paris (Lord Kingsborough, Antiquities of Mexico: Comprising fac-similes of ancient Mexican paintings and hieroglyphics... together with the monuments of New Spain, vol. 1, London 1831).
1899. Manuscrit mexicain du cabinet de Ch.—M. le Tellier, archevèque de Reims à la Bibliothèque Nationale (Ms. Mexicain No 385) précédé d'une introduction contenant la transcription complète des anciens commentaires hispano-mexicains par le Dr. E.-T. Hamy. Paris 1899.
CODEX VATICANUS 3738 (VATICANUS A).
1831. Copy of a Mexican manuscript, preserved in the library of the Vatican. Marked No. 3738 (Lord Kingsborough, Antiquities of Mexico: Comprising fac-similes of ancient Mexican paintings and hieroglyphics... together with the monuments of New Spain, vol. 2, London 1831).
COGOLLUDO, DIEGO LÓPEZ DE.
1688. Historia de Yucathan. Madrid 1688.
COOPER CLARK, J.
1912. The story of "Eight Deer" in Codex Colombino. London 1912.
1913. The story of Eight Deer in Codex Colombino (International Congress of Americanists, Proceedings of the 18. session, London, 1912, pp. 135—136, London 1913).
CÓRDOVA, JUAN DE.
1886. Arte del idioma Zapoteco (First edition Mexico, 1578). Morelia 1886.
COREY, HERBERT.
1927. Among the Zapotecs of Mexico (The National Geographic Magazine, vol. 51, no. 5, pp. 501—553, Washington 1927).
CORNER, WILLIAM.
1899. Mitla: An archaeological study of the ancient ruins and remains in that pueblo (The Journal of the Anthropological Institute of Great Britain and Ireland, vol. 29, pp. 29—50, London 1899).
CORTÉS, HERNAN.
1866. Cartas y relaciónes de Hernan Cortés al Emperador Carlos V (Edited by Pascual de Gayangos). Paris 1866.
1908. Letters of Cortes (Translated and edited by Francis Augustus MacNutt). 2 vols. New York and London 1908.
CRAULES, MANUEL.
1925—1926. Customs in Ojitlan, Oaxaca (Mexican Folk-Ways, vol. 2, pp. 44—45, Mexico 1925—1926).
CRÉQUI-MONTFORT, G. DE, RIVET, P. et ARSANDAUX, H.
1919. Contribution à l'étude de l'archéologie et de la métallurgie colombiennes (Journal de la Société des Américanistes de Paris, n. s. tome 11, pp. 525—591, Paris 1919).
CRUZ, WILFRIDO C.
1935. El tonalámatl zapoteco. Oaxaca 1935.

Digitized by Google

CUMMINGS, BYRON C.
1933. Cuicuilco and the Archaic Culture of Mexico (University of Arizona Bulletin, vol. 4, no. 8, Social Science Bulletin no. 4, pp. 1—56, Tucson, Arizona 1933).

DANZEL, THEODOR-WILHELM.
1923. Mexiko (Schriften-Reihe: Kulturen der Erde. Material zur Kultur- und Kunstgeschichte aller Völker. Band 12, Mexiko, vol. 2. Hagen i W. und Darmstadt 1923).

DÍAZ DEL CASTILLO, BERNAL.
1904. Historia verdadera de la Conquista de la Nueva España (Edited by Genaro García). 2 vols. México 1904.
1906—09. Mexikos erobring ved Hernando Cortés (Translated from Genaro García's edition by Emil Gigas. Edited by Selskabet til Historiske Kildeskrifters Oversættelse). København 1906—09.
1908—1916. The true history of the conquest of New Spain. Edited and published in Mexico by Genaro García. Translated by A. P. Maudslay. 5 vols. (Hakluyt Society, second series, vols. 23—25, 30, 40, London 1908—1916).

DIESELDORFF, E. P.
1926. Kunst und Religion der Mayavölker im alten und heutigen Mittelamerika (Sonderabdruck aus Zeitschrift für Ethnologie 1925, Band 57). Berlin 1926.

DIETSCHY, HANS.
1937. Die Medizin der Azteken (Ciba Zeitschrift, Jahrgang 4, Nummer 42, pp. 1438—1469, Basel 1937).

DIGUET, M. LÉON.
1905. Notes d'archéologie Mixtéco-Zapotèque (Extrait du Journal de la Société des Américanistes de Paris, n. s. tome 2, pp. 1—10, Paris 1905).

DOERING, HEINRICH.
1924. See Lehmann und Doering 1924.

DOUTRELAINE, M.
1867. Les ruines de Mitla (Archives de la Commission Scientifique du Mexique, vol. 3, pp. 104—111, Paris 1867).

DUPAIX, GUILLELMO.
1831. The monuments of New Spain (Lord Kingsborough, Antiquities of Mexico: Comprising fac-similes of ancient Mexican paintings and hieroglyphics ... together with the monuments of New Spain, vol. 4, London 1831).
1834. Antiquités mexicaines. Relation des trois expéditions du Capitaine Dupaix, ordonnées en 1805, 1806 et 1807, pour le recherche des antiquités du pays, notamment celles de Mitla et de Palenque. 2 vols. Paris 1834.

ENGERRAND, G.
1917. Les mutilations dentaires chez les anciens Mayas (Revue anthropologique, tome 27, pp. 488—493, Paris 1917).

FERGUSSON, ERNA.
1934. Fiesta in Mexico. New York 1934.

FERIA, PEDRO DE.
1899. Relación que hace el obispo de Chiapas ... sobre la reincidencia en sus idolatrías de los indios de aquel país después de treinta años de cristianos (Anales del Museo Nacional de México, primera época, tomo 6, pp. 481—487, México 1899).

FERNANDEZ LEDESMA, GABRIEL.
1930. Calzado Mexicano, cactlis y huaraches (Secretaría de Educación Pública, series de arte, no. 2, Mexico 1930).

FREEMAN, LEONARD.
1924. Surgery of the ancient inhabitants of the Americas (Art and Archaeology, vol. 18, nos. 1—2, pp. 21—35, Washington 1924).

FRIEDERICI, GEORG.
1925—1936. Der Charakter der Entdeckung und Eroberung Amerikas durch die Europäer. 3 vols. (Allgemeine Staatengeschichte. Zweite Abteilung, Geschichte der Aussereuropäischen Staaten. Zweites Werk. Stuttgart-Gotha 1925—1936).

FUHRMANN, ERNST.
1922. Mexiko (Schriften-Reihe: Kulturen der Erde. Material zur Kultur- und Kunstgeschichte aller Völker. Band 13, Mexiko, vol. 3. Hagen i W. und Darmstadt 1922).

FÜRST, CARL M.
1920. När de döda vittna. Stockholm 1920.

GAGE, THOMAS.
1928. The English-American: a new survey of the West Indies, 1648 (Edited by A. P. Newton. The Broadway Travellers). London 1928.

GAMIO, MANUEL.
1922. La población del Valle de Teotihuacan. 3 vols. Mexico 1922.

Digitized by Google

1922 a. The population of the Valley of Teotihuacan. Introduction, synthesis and conclusions. Mexico 1922.

García Vega, Agustín.
1928. Mitla (Estado actual de los principales edificios arqueológicos de Mexico, Secretaría de Educación Pública, pp. 135—159, Mexico 1928).

Gordon, George Byron.
1905. The serpent motive in the ancient art of Central America and Mexico (Transactions of the Department of Archaeology, Free Museum of Science and Art, University of Pennsylvania, vol. 1, part 3, pp. 131—163, Philadelphia 1905).

Greenman, E. F.
1932. Origin and development of the burial mound (American Anthropologist, n. s. vol. 34, pp. 286—295, Menasha 1932).
1936. See Hinsdale and Greenman 1936.

Guiard, Émile-Jean-Élie.
1929. La trépanation cranienne chez les néolithiques et chez les primitifs modernes (Université de Bordeaux. Faculté de Médecine et de Pharmacie, 1929—1930, no. 80, Bordeaux 1929).

Guthe, Carl E.
1935. Gold-decorated teeth from the Philippine Islands (Reprinted from Papers of the Michigan Academy of Science, Arts and Letters, vol. 20, 1934, pp. 7—22, Ann Arbor 1935).

Guzman, Eulalia.
1934. Exploración arqueológica en la Mixteca Alta (Anales del Museo Nacional de Arqueología, Historia y Etnografía, quinta época, tomo I, pp. 17—42, Mexico 1934).

Hammarstedt, N. E.
1927. Seder vid åkerbruk och boskapsskötsel som härleda sig från jakt- och fångstriter (Fataburen, Nordiska museet, 1927, pp. 40—50, Stockholm 1927).

Hamy, E. T.
1882. Les mutilations dentaires au Mexique et dans le Yucatan (Bulletins de la Société d'Anthropologie de Paris, 3e série, tome 5, pp. 879—887, Paris 1882).
1883. Mutilations dentaires des Huastèques modernes (Bulletins de la Société d'Anthropologie de Paris, 3e série, tome 6, pp. 644—645, Paris 1883).
1890. La dent d'or de Tepito (Decades Americanae. Mémoires d'archéologie et d'ethnographie américaines, 1re et 2e décades, pp. 161—162, Paris 1890[?]).
1897. Galerie américaine du Musée d'Ethnographie du Trocadéro, 2 vols. Paris 1897.
1898. Mutilations dentaires des Huaxtèques et des Mayas (Decades Americanae. Mémoires d'archéologie et d'ethnographie américaines, 3e et 4e décades, pp. 88—94, Paris 1898).

Hartman, C. V.
1907. Archeological researches on the Pacific Coast of Costa Rica (Memoirs of the Carnegie Museum, vol. 3, no. 1, Pittsburg 1907).

Henning, Paul.
1929. Palangón en zapoteco, que se usa en Zaachila, Distrito de Zimatlán, Estado de Oaxaca, para pedir la novia (El Mexico Antiguo, tomo 1, no. 5, pp. 91—96, Mexico 1929).

Hernandez, Francisco.
1888. Cuatro libros de la naturaleza y virtudes medicinales de las plantas y animales de la Nueva España. Extracto de las obras del Dr. Francisco Hernandez. Anotados, traducidos y publicados en Mexico el año 1615, por Fr. Francisco Ximenez. Morelia 1888.

Herrera, Antonio de.
1601. Historia general de los hechos de los Castellanos en las islas y tierra firme del mar Oceano. Madrid 1601.

Hinsdale, W. B. and Greenman, Emerson F.
1936. Perforated Indian crania in Michigan (Occasional Contributions from the Museum of Anthropology of the University of Michigan, no. 5, pp. 1—15, Ann Arbor 1936).

Holmes, William H.
1887. The use of gold and other metals among the ancient inhabitants of Chiriqui, Isthmus of Darien (Bulletin 3 of the Bureau of American Ethnology, pp. 1—27, Washington 1887).
1897. Archeological studies among the ancient cities of Mexico. Part II, Monuments of Chiapas, Oaxaca and the Valley of Mexico (Field Columbian Museum, publication 16, anthropological series, vol. 1, no. 1, Chicago 1897).

Digitized by Google

HOLSTEIN, OTTO.
1927. Chan-Chan: Capital of the Great Chimu (The Geographical Review, vol. 17, pp. 36—61, New York 1927).
HRDLIČKA, ALEŠ.
1897. See Lumholtz and Hrdlička 1897.
IHERING, HERMANN VON.
1882. Die künstliche Deformirung der Zähne (Zeitschrift für Ethnologie, Band 14, pp. 213—262, Berlin 1882).
IZIKOWITZ, KARL GUSTAV.
1935. Musical and other sound instruments of the South American Indians. A comparative ethnographical study (Göteborgs Kungl. Vetenskaps- och Vitterhets-Samhälles Handlingar. Femte följden. Ser. A. Band 5, No 1. Göteborg 1935).
JIJÓN Y CAAMAÑO, J.
1930. Una gran marea cultural en el N. O. de Sud América (Journal de la Société des Américanistes de Paris, n. s. tome 22, pp. 107—197, Paris 1930).
JIMÉNEZ MORENO, WIGBERTO.
1937. Materiales para una bibliografía etnográfica de la América Latina. Primera parte: Bibliografía entnográfica de México; j) Pueblos de Oaxaca y del Istmo (Boletín Bibliográfico de Antropología Americana, Instituto Panamericano de Geografía e Historia, vol. 1, núms. 1—2, pp. 69—72, Mexico 1937).
JOYCE, THOMAS A.
1914. Mexican archaeology. An introduction to the archaeology of the Mexican and Mayan civilizations of Pre-Spanish America. London 1914.
1916. Central American and West Indian archaeology. London 1916.
1927. Maya and Mexican art. London 1927.
KOPPERS, WILHELM.
1930. Der Hund in der Mythologie der zirkumpazifischen Völker (Wiener Beiträge zur Kulturgeschichte und Linguistik. Veröffentlichungen des Institutes für Völkerkunde an der Universität Wien, Jahrgang 1, pp. 359—399, Wien 1930).
KRICKEBERG, WALTER.
1922. Amerika (Illustrierte Völkerkunde, herausgegeben von Dr. Georg Buschan, zweite Auflage, Band 1, pp. 52—427, Stuttgart 1922).
1925. Die Totonaken. Ein Beitrag zur historischen Ethnographie Mittelamerikas (Baessler-Archiv. Band 7, pp. 1—55; Band 9, pp. 1—75, Berlin 1918—22, 1925).
1928. Mexikanisch-peruanische Parallelen (Festschrift P. W. Schmidt, pp. 378—393, Wien 1928).
1933. Los Totonaca. Contribución a la Etnografía Histórica de la América Central (Secretaría de Educación Pública). Mexico 1933.
1935. Beiträge zur Frage der alten kulturgeschichtlichen Beziehungen zwischen Nord- und Südamerika (Zeitschrift für Ethnologie, Band 66, pp. 287—373, Berlin 1935).
1936. Bericht über neuere Forschungen zur Geschichte der alten Kulturen Mittelamerikas. I. Die Grundlagen (Die Welt als Geschichte, II. Jahrgang, pp. 488—505, Stuttgart 1936).
1937. Bericht über neuere Forschungen zur Geschichte der alten Kulturen Mittelamerikas. II. Archäologische Ergebnisse. I. Teil (Die Welt als Geschichte, III. Jahrgang, pp. 194—230, Stuttgart 1937).
KROEBER, A. L.
1930. Cultural relations between North and South America (Proceedings of the twenty-third International Congress of Americanists, New York 1928, pp. 5—22, New York 1930).
LA FARGE, OLIVER.
1926—1927. See Blom and La Farge 1926—1927.
LANDA, DIEGO DE.
1928—1929. Relation des choses de Yucatan (Relación de las cosas de Yucatan. Edition Jean Genet). 2 vols. Paris 1928—1929.
LARSEN, HELGA.
1936. The 260 day period as related to the agricultural life of the ancient Indian (Ethnos, vol. 1, no. 1, pp. 9—12, Stockholm 1936).
1937. Notes on the volador and its associated ceremonies and superstitions (Ethnos, vol. 2, no. 4, pp. 179—192, Stockholm 1937).
LASCH, RICHARD.
1901. Die Verstümmlung der Zähne in Amerika und Bemerkungen zur Zahndeformierung im Allgemeinen (Mittheilungen der Anthropologischen Gesellschaft in Wien, Band 31, pp. 13—22, Wien 1901).

Digitized by Google

LASTRES, JUAN B.
1935. Investigación histórica del pasado nervioso peruano. Lima 1935.

LEHMANN, WALTER.
1905. Les peintures Mixtéco-Zapotèques et quelques documents apparentés (Journal de la Société des Américanistes, n. s. tome 2, pp. 241—280, Paris 1905).
1909. Methods and results in Mexican research (Originally published in the Archiv für Anthropologie, vol. 6, 1907). Paris 1909.
1912. Berichte des K. Ethnographischen Museums in München, IV (1911). Herausgegeben von L. Scherman. (Sonderabdruck aus dem Münchner Jahrbuch der bildenden Kunst). München 1912.
1916. Ein kostbares Räuchergefäss aus Guatemala (Zeitschrift für Ethnologie, Band 48, pp. 335—339, Berlin 1916).
1920. Zentral-Amerika. Teil 1. Die Sprachen Zentral-Amerikas in ihren Beziehungen zueinander sowie zu Süd-Amerika und Mexiko. 2 vols. Berlin 1920.
1922. Altmexikanische Kunstgeschichte. Ein Entwurf in Umrissen (Orbis Pictus, Band 8). Berlin 1922.
1925. Ein goldner Adlerschmuck aus Costa Rica (Ipek. Jahrbuch für prähistorische und ethnographische Kunst, pp. 165—197, Leipzig 1925).
1933. Aus den Pyramidenstädten in Alt-Mexiko. Berlin 1933.

LEHMANN, WALTER und DOERING, HEINRICH.
1924. Kunstgeschichte des alten Peru. Berlin 1924.

LEÓN, NICOLÁS.
1890. Anomalías y mutilaciónes étnicas del sistema dentario entre los Tarascos pre-Colombianos (Anales del Museo Michoacano, año tercero, pp. 168—173, Morelia 1890).
1900. Arqueología Zapoteca (Memoria leída en la Sociedad Mexicana de Geografía y Estadística la noche del 24 de abril de 1900, pp. 1—18, México 1900).
1901. Lyobaa ó Mactlan, guía histórico-descriptiva. Mexico 1901.

LINDBLOM, GERHARD.
1924. Afrikanische Relikte und indianische Entlehnungen in der Kultur der Buschneger Surinams (Göteborgs Kungl. Vetenskaps- och Vitterhets-Samhälles Handlingar. Fjärde följden. 28: 1. Göteborg 1924).

LINNÉ, S.
1929. Darien in the past. The archaeology of eastern Panama and north-western Colombia (Göteborgs Kungl. Vetenskaps- och Vitterhets-Samhälles Handlingar. Femte följden. Ser. A. Band 1, N:o 3. Göteborg 1929).
1934. Archaeological researches at Teotihuacan, Mexico (The Ethnographical Museum of Sweden. New series, Publication No. 1, Stockholm 1934).
1934 a. Strövtåg genom Mexicos forntid. Arkeologiska studier och grävningar som Wahlbergsstipendiat i Mexico 1932 (Ymer, vol. 54, 1934, pp. 1—39, Stockholm 1934).
1936. The expedition to Mexico sent out in 1934—35 by the Ethnographical Museum of Sweden (Ethnos, vol. 1, no. 2, pp. 39—48, Stockholm 1936).
1936 a. Archaeological field work in Chiriqui, Panama (Ethnos, vol. 1, no. 4, pp. 95—102, Stockholm 1936).
1937. Statens etnografiska museums expedition till Mexico 1934—35. De arkeologiska undersökningarna (Ethnos, vol. 2, no. 4, pp. 267—300, Stockholm 1937).

LORENA, ANTONIO.
1937. Datos para la prehistoria del Cuzco. Notas antropológicas: Un artículo inédito del Dr. A. Lorena (Revista del Museo Nacional, tomo, 6, no. 1, pp. 81—85, Lima 1937).

LOTHROP, SAMUEL KIRKLAND.
1926. Pottery of Costa Rica and Nicaragua, 2 vols. (Contributions from the Museum of the American Indian, Heye Foundation, vol. 8, New York 1926).
1928. Santiago Atitlan, Guatemala (Indian Notes, Museum of the American Indian, Heye Foundation, vol. 5, no. 4, pp. 370--395, New York 1928).
1933. Atitlan. An archaeological study of ancient remains on the borders of Lake Atitlan, Guatemala (Carnegie Institution of Washington. Publication no. 444, Washington 1933).
1936. Zacualpa. A study of ancient Quiche artifacts (Carnegie Institution of

Digitized by Google

Washington. Publication no. 472, Washington, 1936).

1936 a. Sculptured pottery of the southern Maya and Pipil (Maya Research, vol. 3, no. 2, pp. 140—152, New Orleans 1936).

1937. Coclé. An archaeological study of Central Panama. Part. I. Historical background. Excavations at the Sitio Conte. Artifacts and ornaments (Memoirs of the Peabody Museum of Archaeology and Ethnology, Harvard University, vol. 7, Cambridge 1937).

LUMHOLTZ, CARL and HRDLIČKA, ALEŠ.

1897. Trephining in Mexico (American Anthropologist, o. s. vol. 10, pp. 389—396, Washington 1897).

MCBRIDE, GEORGE MCCUTCHEN.

1923. The land systems of Mexico (American Geographical Society, Research series, no. 12, New York 1923).

MCGEE, W. J.

1897. See Muñiz and McGee 1897.

MALER, TEOBERT.

1879. Découverte d'un tombeau royal Zapotéque á Tehuantepec en 1875 (La Nature, pp. 22—24, Paris, June 24, 1879).

MARQUINA, IGNACIO.

1928. Estudio arquitectónico comparativo de los monumentos arqueológicos de Mexico (Secretaría de Educación Pública). Mexico 1928.

MARTÍNEZ BACA, FRANCISCO.

1897. Estudio craneométrico Zapoteca (Congreso Internacional de Americanistas. Actas de la undécima reunión, México 1895, pp. 237—264, México 1897).

MARTÍNEZ GRACIDA, MANUEL.

1883. Catálogo etimológico de los nombres de los pueblos, haciendas y ranchos del Estado de Oaxaca. Oaxaca 1883.

1889. Catálogo etimológico de las poblaciónes del Estado de Oaxaca (Boletin de la Sociedad de Geografía y Estadística, cuarta época, tomo 1, núms. 6—8, Mexico 1889).

1897. Minería y su industria. Páginas de la obra inédita "Los indios Oaxaqueños y sus monumentos arqueológicos" (Congreso Internacional de Americanistas. Actas de la undécima reunión, México 1895, pp. 426—442, México 1897).

1898. Mitología mixteca (Memorias de la Sociedad Científica "Antonio Alzate", tomo 11, núms. 9—12, pp. 421—435, México. 1898).

1910. Civilización Chontal. Historia antigua de la Chontalpa Oaxaqueña (Memorias de la Sociedad Científica "Antonio Alzate", tomo 30, nos. 1—2, 7—9, pp. 29—104, 223—325, Mexico 1910).

1923. Las velas tehuantepecanas (Ethnos, 2a época, tomo 1, no. 2, pp. 23—27, Mexico 1923).

MASON, J. ALDEN.

1929. Zapotec funerary urns from Mexico (The Museum Journal, Museum of the University of Pennsylvania, vol. 20, no. 2, pp. 176—201, Philadelphia 1929).

MAYER, BRANTZ.

1857. Observations on Mexican history and archaeology, with a special notice of Zapotec remains (Smithsonian Contributions to Knowledge, vol. 9, pp. 1—33, Washington 1857).

MECHLING, WILLIAM H.

1912. The Indian linguistic stocks of Oaxaca, Mexico (American Anthropologist, n. s. vol. 14, pp. 643—682, Lancaster 1912).

MEDINA, JOSÉ TORIBIO.

1912. Monedas usadas por los indios de América al tiempo del descubrimiento, según los antiguos documentos y cronistas españoles (Actas del XVII. Congreso Internacional de Americanistas, Buenos Aires 1910, pp.556—567, Buenos Aires 1912).

MENDIETA, GERÓNIMO DE.

1870. Historia eclesiástica Indiana (Ed. Joaquín García Icazbalceta: Colección de documentos para la historia de México, tomo 3, México 1870).

MENDOZA, G.

1877. Un cincel de bronce de los antiguos Aztecas (Anales del Museo Nacional de México, tomo 1, pp. 117—119, México 1877).

MERWIN, RAYMOND E. and VAILLANT, GEORGE C.

1932. The ruins of Holmul, Guatemala (Memoirs of the Peabody Museum of American Archaeology and Ethnology, Harvard University, vol. 3, no. 2, Cambridge 1932.

MONTELL, GÖSTA.

1929. Dress and ornaments in ancient Peru. Göteborg 1929.

Digitized by Google

1936. The expedition to Mexico sent out in 1934—35 by the Ethnographical Museum of Sweden. The ethnographical investigations (Ethnos, vol. 1, no. 3, pp. 60—66, Stockholm 1936).
1936 a. Mexikanskt indianliv i forntid och nutid. Stockholm 1936.
1937. Statens etnografiska museums expedition till Mexico 1934—35. De etnografiska undersökningarna (Ethnos, vol. 2, no. 4. pp. 301—318, Stockholm 1937).

MOTOLINÍA, TORIBIO DE BENAVENTE.
1914. Historia de los indios de la Nueva España. Escrita a mediados del siglo XVI. Barcelona 1914.

MUELLE, JORGE C.
1937. Los Valles de Trujillo (Revista del Museo Nacional, tomo 6, no. 1, pp. 3—24, Lima 1937).

MUÑIZ, MANUEL ANTONIO and MCGEE, W. J.
1897. Primitive trephining in Peru (16th Annual Report of the Bureau of American Ethnology, pp. 3—72, Washington 1897).

NADAILLAC, MARQUIS DE.
1883. Les outils en cuivre du Mexique (La Nature, tome 21, pp. 67—70, Paris 1883).

NEUBURGER, MAX.
1905. Über die Medizin der alten Mexikaner (Wiener Medizinische Presse, Jahrgang 46, Nr. 40, pp. 1897—1905, Wien 1905).

NOACK, TH.
1915. Über den mumifizierten Kopf eines Incahundes aus dem Totenfelde von Ancon in Peru (Zoologischer Anzeiger, Band 46, Nr. 2—3, pp. 62—69, Leipzig 1915).

NOGUERA, EDUARDO.
1930. Algunas características de la cerámica de México (Journal de la Société des Américanistes de Paris, n. s. tome 22, pp. 249—310, Paris 1930).
1930 a. Decorative aspects of certain types of Mexican pottery (Proceedings of the twenty-third International Congress of Americanists, New York 1928, pp. 85—92, New York 1930).
1932. Extensiónes cronológico-culturales y geográficas de las cerámicas de Mexicos. Mexico 1932.
1933. Bibliografía de los códices precolombinos y documentos indígenas posteriores a la conquista (Secretaría de Educación Pública, Publicaciónes del Museo Nacional, pp. 1—23, México 1933).
1933 a. Objetos procedentes de Ojitlan, Oaxaca (Boletin del Museo Nacional de Arquelogía, Historia y Etnografía, quinta época, tomo 2, pp. 45—46, Mexico 1933).
1935. Antecedentes y relaciónes de la cultura Teotihuacana (Reprinted from El Mexico Antiguo, vol. 3 núms. 5—8, pp. 1—94, Mexico 1935).
1937. Conclusiónes principales obtenidas por el estudio de la cerámica arqueológica de Cholula. Mexico 1937.

NORDENSKIÖLD, ERLAND.
1912. De sydamerikanska indianernas kulturhistoria. Stockholm 1912.
1921. The copper and bronze ages in South America (Comparative ethnographical studies, vol. 4). Göteborg 1921.
1930. Modifications in Indian culture through inventions and loans (Comparative ethnographical studies, vol. 8). Göteborg 1930.
1931. Origin of the Indian civilizations in South America (Comparative ethnographical studies, vol. 9). Göteborg 1931.

NUTTALL ZELIA.
1902. See Codex Nuttall.
1904. A penitential rite of the ancient Mexicans (Archaeological and Ethnological Papers of the Peabody Museum, Harvard University, vol. 1, no. 7, Cambridge 1904).
1909. A curious survival in Mexico of the use of the purpura shell-fish for dyeing (Putnam Anniversary Volume, pp. 368—384, New York 1909).
1932. Sobre un monumento en Monte Albán de gran importancia (Sociedad Mexicana de Geografía y Estadística). Mexico 1932.

OBER, FREDERICK A.
1884. Travels in Mexico and life among the Mexicans. Boston 1884.

ORCHARD, WILLIAM C.
1929. Beads and beadwork of the American Indians (Contributions from the Museum of the American Indian, Heye Foundation, vol. XI, New York 1929).
1930. Peruvian gold and gold plating (Indian Notes, Museum of the American Indian, Heye Foundation, vol. 7,

Digitized by Google

no. 4, pp. 466—474, New York 1930).

Oviedo y Valdés, Gonzalo Fernandez de.
1851—1855. Historia general y natural de las Indias, islas y tierra-firme del mar Océano. 4 vols. Madrid 1851—1855.

Parsons, Elsie Clews.
1930. Ritos zapotecas de año nuevo (Mexican Folk-Ways, vol. 6, pp. 38—46, Mexico 1930).
1936. Mitla, Town of the Souls, and other Zapoteco-speaking pueblos of Oaxaca, Mexico (The University of Chicago Publications in Anthropology, Ethnological Series). Chicago 1936.

Pauer, Paul Siliceo.
1927. La Población Indígena de Yalalag, Oaxaca (Anthropos. Internationale Zeitschrift für Völker- und Sprachenkunde, Band 22, pp. 45—65, Wien 1927).

Peabody, Ch.
1927. Red paint (Journal de la Société des Américanistes de Paris, n. s. tome 19, pp. 207—244, Paris 1927).

Peñafiel, Antonio.
1886—1887. Gramática de la lengua Zapoteca por un autor anónimo. Mexico 1886—1887.
1890. Monumentos del arte mexicano antiguo. Ornamentacion, mitología, tributos y monumentos. 3 vols. Berlin 1890.

Pérez, Eutimio.
1888. Recuerdos históricos del Episcopado Oaxaqueño. Oaxaca 1888.

Phillips, George Brinton.
1925. The metal industry of the Aztecs (American Anthropologist, n. s. vol. 27, pp. 550—557, Menasha 1925).

Plancarte y Navarrete, Francisco.
1893. Archeologic explorations in Michoacan, México (American Anthropologist, o. s. vol. 6, pp. 79—84, Washington 1893).
1911. Tamoanchan. El Estado de Morelos y el principio de la civilización en Mexico. Mexico 1911.

Pohorilles, Noah E.
1913. Das Popol Wuh (Mythologische Bibliotek VI, 1). Leipzig 1913.

Pollock, H. E. D.
1936. Round structures of aboriginal Middle America (Carnegie Institution of Washington, Publication no. 471, Washington 1936).

Putnam, Frederick W.
1883. Notes on copper implements from Mexico (Proceedings of the American Antiquarian Society, n. s. vol. 2, pp. 235—246, Worcester 1883).

Radin, Paul.
1917. El folklore de Oaxaca (Anales de la Escuela Internacional de Arqueología y Etnología Americanas, New York 1917).
1920. The sources and authenticity of the history of the ancient Mexicans (University of California Publications in American Archaeology and Ethnology, vol. 17, no. 1, pp. 1—150, Berkeley 1920).
1928. The story of the American Indian. London 1928.
1931. Mexican kinship terms (University of California Publications in American Archaeology and Ethnology, vol. 31, no. 1, pp. 1—14, Berkeley 1931).
1935. An historical legend of the Zapotecs (Ibero-Americana: 9, Berkeley 1935).

Reko, Viktor A.
1930. Das Dorf der Blinden [Tiltepec, Distrito de Ixtlán] (Therapeutische Berichte, Jahrgang 7, Nr. 10, Leverkusen 1930).

Retzius, Gustaf.
1902. Om trepanation af hufvudskålen, såsom folksed i forna och nyare tider (Ymer, vol. 21, 1901, pp. 11—28, Stockholm 1902).

Rickards, Constantine George.
1910. The Ruins of Mexico. London 1910.
1921. Zoolatría entre los Zapotecos (Memorias y Revista de la Sociedad Científica "Antonio Alzate", tomo 35, núms. 5—12, pp. 327—337, Mexico 1921).
1928. The ruins of Quiotepec. District of Cuicatlan. State of Oaxaca-Mexico (Atti del 22 Congresso Internazionale degli Americanisti, Roma 1926, vol. 1, pp. 624—631, Roma 1928).

Ricketson, Oliver, Jr.
1935. Four pottery moulds from Guatemala (Maya Research, vol. 2, no. 3, pp. 253—256, New Orleans 1935).

Rivet, P.
1912—1922. See Verneau et Rivet 1912—1922.
1919. See Créqui-Montfort, Rivet et Arsandaux 1919.

Digitized by Google

1921. Note complémentaire sur la métallurgie sud-américaine (Journal de la Société des Américanistes de Paris, n. s. tome 13, pp. 233—238, Paris 1921).
1921 a. See Arsandaux et Rivet 1921.
1923. See Arsandaux et Rivet 1923.

RUBÍN DE LA BORBOLLA, D. F.
1933. Informe de los trabajos de antropología realizados durante la segunda temporada de exploraciones en Monte Alban (Anales del Museo Nacional de Arqueología, Historia y Etnografía, 4a época, tomo 8, pp. 189—200, Mexico 1933).
1936. See Caso y Rubín de la Borbolla 1936.

RÖCK, F.
1924. Altamerikanische Kulturbeziehungen zwischen Nord-, Mittel- und Südamerika (Proceedings of the twenty-first International Congress of Americanists, First part, The Hague 1924, pp. 200—211, The Hague 1924).
1929. Kunstgewerbe von Mexiko, Mittelamerika und Westindien (Geschichte des Kunstgewerbes aller Zeiten und Völker. Herausgegeben von H. Th. Bossert, Band 2, pp. 349—407, Berlin 1929).

SAHAGUN, BERNARDINO DE.
1890. See Seler 1890 a.
1890—1896. Historia general de las cosas de Nueva España. Escrita por el R. P. Fr. Bernardino de Sahagun y dada a luz con notas y suplementos por D. Carlos Maria de Bustamente. 4 vols. (Biblioteca Mexicana, tomo 22—25, México 1890—1896).
1922. Historia de las cosas de Nueva España ("Códice Florentino". Portfolio of illustrations from Sahagun's manuscripts copied under direction of F. del Paso y Troncoso and issued by the Mexican Government). Firenze 1922.
1927. Einige Kapitel aus dem Geschichtswerk des Fray Bernardino de Sahagun aus dem Aztekischen übersetzt von Eduard Seler. Stuttgart 1927.
1932. A history of ancient Mexico. Translated by Fanny R. Bandelier from the Spanish version of Carlos Maria de Bustamante. Vol. 1. (Fisk University Social Science Series). Nashville 1932.

SAPPER, KARL.
1924. Die Zahl und die Volksdichte der indianischen Bevölkerung in Amerika vor der Conquista und in der Gegenwart (Proceedings of the twenty-first International Congress of Americanists, First part, The Hague 1924, pp. 95—104, The Hague 1924).
1928. Zahl, Rasse und Dichte der mexicanischen Bevölkerung (Atti del 22 Congresso Internazionale degli Americanisti, Roma 1926, vol. 2, pp. 307—321, Roma 1928).
1928 a. Mexico. Land, Volk und Wirtschaft. Wien 1928.
1936. Pipiles und Mayavölker (Ibero-Amerikanisches Archiv, Band 10, pp. 78—86, Berlin und Bonn 1936).

SAVILLE, MARSHALL H.
1897. An ancient figure of terra cotta from the Valley of Mexico (Bulletin of the American Museum of Natural History, vol. 9, article 17, pp. 221—224, New York 1897).
1899. Exploration of Zapotecan tombs in southern Mexico (American Anthropologist, n. s. vol. 1, pp. 350—362, New York 1899).
1900. Cruciform structures near Mitla (Bulletin of the American Museum of Natural History, vol. 13, article 17, pp. 201—218, New York 1900).
1900 a. A votive adze of jadeite from Mexico (Monumental Records, pp. 138—140, May, 1900).
1904. Funeral urns from Oaxaca (The American Museum Journal, vol. 4, pp. 50—60, New York 1904).
1909. The cruciform structures of Mitla and vicinity (Putnam Anniversary Volume, pp. 151—190, New York 1909).
1911. The work of the Loubat Expedition in southern Mexico (Privately printed (?), dated March 23rd, 1911, pp. 1—4).
1913. Precolumbian decoration of the teeth in Ecuador, with some account of the occurrence of the custom in other parts of North and South America (American Anthropologist, n. s. vol. 15, pp. 377—394, Lancaster 1913).
1920. The goldsmith's art in ancient Mexico (Indian Notes and Monographs, Museum of the American Indian, Heye Foundation, New York 1920).

Digitized by Google

1922. Turquois mosaic art in ancient Mexico (Contributions from the Museum of the American Indian, Heye Foundation, vol. 6, New York 1922).
1925. The wood-carver's art in ancient Mexico (Contributions from the Museum of the American Indian, Heye Foundation, vol. 9, New York 1925).
1930. Toltec or Teotihuacan types of artifacts in Guatemala (Indian Notes, Museum of the American Indian, Heye Foundation, vol. 7, no. 2, pp. 195—206, New York 1930).

SCHELLHAS, PAUL.
1890. Vergleichende Studien auf dem Felde der Maya-Alterthümer (Internationales Archiv für Ethnographie, Band 3, pp. 209—231, Leiden 1890).
1904. Representation of deities of the Maya manuscripts (Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, vol. 4, no. 1, Cambridge 1904).
1926. Der Ursprung der Mayahandschriften (Zeitschrift für Ethnologie, Band 58, pp. 1—16, Berlin 1926).

SCHMIDT, MAX.
1929. Kunst und Kultur von Peru. Berlin 1929.

SCHMIEDER, OSCAR.
1930. The settlements of the Tzapotec and Mije Indians, State of Oaxaca, Mexico (University of California Publications in Geography, vol. 4, Berkeley 1930).
1934. Der Einfluss des Agrarsystems der Tzapoteken, Azteken und Mije auf die Kulturentwicklung dieser Völker (Verhandlungen des XXIV. Internationalen Amerikanisten-Kongresses, Hamburg 1930, pp. 109—111, Hamburg 1934).

SELER, EDUARD.
1890. Die sogenannten sacralen Gefässe der Zapoteken (Veröffentlichungen aus dem Königlichen Museum für Völkerkunde, Band 1, Heft 4, pp. 182—188, Berlin 1890).
1890 a. Ein Kapitel aus den in aztekischer Sprache geschriebenen ungedruckten Materialien zu dem Geschichtswerk des P. Sahagun (Veröffentlichungen aus dem Königlichen Museum für Völkerkunde, Band 1, Heft 4, pp. 117—181, Berlin 1890).
1895. Wandmalereien von Mitla. Eine Mexikanische Bilderschrift in Fresko. Berlin 1895.
1900. Das Tonalamatl der Aubin'schen Sammlung. Eine altmexikanische Bilderhandschrift der Bibliothèque Nationale in Paris. Berlin 1900.
1902. Gesammelte Abhandlungen zur amerikanischen Sprach- und Alterthumskunde (Erster Band). Berlin 1902.
1904. Gesammelte Abhandlungen zur amerikanischen Sprach- und Alterthumskunde (Zweiter Band). Berlin 1904.
1904 a. Wall paintings of Mitla. A Mexican picture writing in fresco (Bulletin 28 of the Bureau of American Ethnology, pp. 243—324, Washington 1904).
1904 b. The Mexican chronology with special reference to the Zapotec calendar (Bulletin 28 of the Bureau of American Ethnology, pp. 11—55, Washington 1904).
1904—1909. Codex Borgia. Eine altmexikanische Bilderschrift der Bibliothek der Congregatio de Propaganda Fide. 3 vols. Berlin 1904—1909.
1908. Gesammelte Abhandlungen zur amerikanischen Sprach- und Alterthumskunde (Dritter Band). Berlin 1908.
1915. Die Teotiuacan-Kultur des Hochlands von México (Gesammelte Abhandlungen zur Amerikanischen Sprach- und Alterthumskunde, Fünfter Band, pp. 405—585, Berlin 1915).
1923. Gesammelte Abhandlungen zur amerikanischen Sprach- und Alterthumskunde (Vierter Band). Berlin 1923.
1927. See Sahagun 1927.

SELER-SACHS, CAECILIE.
1900. Auf alten Wegen in Mexiko und Guatemala. Reiseerinnerungen und Eindrücke aus den Jahren 1895—1897, Berlin 1900. (Second and revised edition, Stuttgart 1925).

SMITH, HARLAN I.
1924. Trephined aboriginal skulls from British Columbia and Washington (American Journal of Physical Anthropology, vol. 7, no. 4, pp. 447—452, Washington 1924).

SPENCE, LEWIS.
1923. The Gods of Mexico. London 1923.

SPINDEN, HERBERT J.
1913. A study of Maya art (Memoirs of

Digitized by Google

the Peabody Museum of American Archaeology and Ethnology, Harvard University, vol. 6, Cambridge 1913).

1915. Notes on the archaeology of Salvador (American Anthropologist, n. s. vol. 17, pp. 446—487, Lancaster 1915).

1916. Portraiture in Central American art (Holmes Anniversary Volume, pp. 434—450, Washington 1916).

1924. The reduction of Mayan dates (Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, vol. 6, no. 4, Cambridge 1924).

1928. Ancient civilizations of Mexico and Central America (Handbook Series No. 3, third and revised edition, American Museum of Natural History, New York 1928).

1935. Indian manuscripts of southern Mexico (Annual Report of the Smithsonian Institution, 1933, pp. 429—451, Washington 1935 [Publication 3279]).

SQUIER, E. GEORGE.

1883. Peru. Reise- und Forschungs-Erlebnisse in dem Lande der Incas. Leipzig 1883.

STARR, FREDERICK.

1894. Notes on Mexican archaeology (The University of Chicago, Department of Anthropology, Bulletin 1, pp. 1—16, Chicago 1894).

1899. Indians of southern Mexico. An ethnographic album. Chicago 1899.

1899 a. Survivals of paganism in Mexico (The Open Court, vol. 13, no. 7, pp. 385—398, 1899).

1901. Notes upon the ethnography of southern Mexico. Expeditions 1898—1900 (Proceedings of the Davenport Academy of Natural Sciences, vol. 8, 1899—1900, pp. 102—198, Davenport 1901).

1902. Notes upon the ethnograhpy of southern Mexico. Expedition of 1901 (Proceedings of the Davenport Academy of Sciences, vol. 9, 1901—1902, pp. 63—172, Davenport 1902).

1902 a. The physical characters of the Indians of southern Mexico (Printed from volume IV of The Decennial Publications First series, The University of Chicago, pp. 1—59 [53—109], Chicago 1902).

1908. In Indian Mexico. Chicago 1908.

STEININGER, G. RUSSELL and VAN DE VELDE, PAUL.

1935. Three dollars a year. Being the story of San Pablo Cuatro Venados, a typical Zapotecan Indian village, that hangs on a slope of the Sierras in southwestern Mexico. New York 1935.

STREBEL, HERMANN.

1885—1889. Alt-Mexiko. Archäologische Beiträge zur Kulturgeschichte seiner Bewohner. 2 vols. Hamburg und Leipzig 1885—1889.

SWANTON, JOHN R.

1911. See Thomas and Swanton 1911.

TELLO, JULIO C.

1913. Prehistoric trephining among the Yauyos of Peru (International Congress of Americanists. Proceedings of the 18. session, London, 1912, pp. 75—83, London 1913).

1929. Antiguo Peru. Lima 1929.

TEMPSKY, G. F. VON.

1858. Mitla; A narrative of incidents and personal adventures. London 1858.

TERMER, FRANZ.

1922. Der Verkehr im altmexikanischen Volksleben (Festschrift Eduard Seler, pp. 557—568, Stuttgart 1922).

1931. Zur Archäologie von Guatemala (Baessler—Archiv, Band 14, pp. 167—191, Berlin 1931).

1936. Die Bedeutung der Pipiles für die Kulturgestaltung in Guatemala (Baessler—Archiv, Band 19, pp. 108—113, Berlin 1936).

TEZOZOMOC, HERNANDO ALVARADO.

1878. Crónica mexicana escrita por D. Hernando Alvarado Tezozomoc hácia el año de MDXCVIII (Biblioteca Mexicana, pp. 223—701). México 1878.

THOMAS, CYRUS and SWANTON JOHN R.

1911. Indian languages of Mexico and Central America and their geographical distribution (Bulletin 44 of the Bureau of American Ethnology, Washington 1911).

THOMPSON, J. ERIC.

1930. Ethnology of the Mayas of southern and central British Honduras (Field Museum of Natural History, Publication 274, Anthropological series, vol. 17, no. 2). Chicago 1930.

1932. Some jade-inlaid teeth of ancient Mayas (Field Museum News, vol. 3, no. 3, Chicago 1932).

Digitized by Google

1933. Mexico before Cortez. An account of the daily life, religion, and ritual of the Aztecs and kindred peoples. New York and London 1933.
1934. Sky Bearers, colors and directions in Maya and Mexican religion (Contributions to American Archaeology, No. 10, Publication No. 436 of Carnegie Institution of Washington, pp. 209—242, Washington 1934).
1936. Archaeology of South America (Field Museum of Natural History, Anthropology, Leaflet 33, Chicago 1936).

THORD-GRAY, I.
1923. Från Mexicos forntid. Stockholm 1923.

TORO, ALFONSO.
1924. Una creencia totémica de los Zapotecas (El Mexico Antiguo, tomo 2, núms. 5—8, pp. 123—128, Mexico 1924).

TORQUEMADA, JUAN DE.
1723. Monarchia Indiana, con el orígen y guerras, de los Indios Ocidentales etc. 3 vols. Madrid 1723.

UHLE, MAX.
1922. Influencias Mayas en el Alto Ecuador (Boletín de la Academia Nacional de Historia, vol. 4, nos. 10—11, pp. 205—240, Quito 1922).
1922 a. Origenes centroamericanos (Boletín de la Academia Nacional de Historia, vol. 4, no. 9, pp. 1—6, Quito 1922).
1923. Civilizaciónes mayoides de la Costa Pacífica de Sudamérica (Boletín de la Academia Nacional de Historia, vol. 6, nos. 15—17, pp. 87—92, Quito 1923).
1923 a. Toltecas, Mayas y civilizaciónes sudamericanas (Boletín de la Academia Nacional de Historia, vol. 7, no. 18, pp. 1—33, Quito 1923).
1925. Der mittelamerikanische Ursprung der Moundbuilder- und Pueblocivilisationen (Congrès International des Américanistes. Compte-rendu de la XXI^e session, deuxième partie tenue à Göteborg en 1924, pp. 673—698, Göteborg 1925).
1926. Los elementos constitutivos de las civilizaciónes andinas (Reprinted from Anales de la Universidad Central del Ecuador, vol. 36, no. 255, pp. 1—12, Quito 1926).
1927. Estudios esmeraldeños (Reprinted from Anales de la Universidad Central del Ecuador, vol. 39, no. 262, pp. 1—61, Quito 1927).
1930. Desarrollo y origen de las civilizaciones Americanas (Proceedings of the twenty-third International Congress of Americanists, New York 1928, pp. 31—43, New York 1930).
1931. Las antiguas civilizaciónes de Manta (Boletín de la Academia Nacional de Historia, vol. 12, nos. 33—35, pp. 5—71, Quito 1931).
1935. Die alten Kulturen Perús im Hinblick auf die Archäologie und Geschichte des amerikanischen Kontinents. Berlin 1935.

VAILLANT, GEORGE C.
1930. Excavations at Zacatenco (Anthropological Papers of the American Museum of Natural History, vol. 32, part 1, pp. 1—197, New York 1930).
1930 a. Notes on the Middle Cultures of Middle America (Proceedings of the twenty-third International Congress of Americanists, New York 1928, pp. 74—81, New York 1930).
1931. Excavations at Ticoman (Anthropological Papers of the American Museum of Natural History, vol. 32, part 2, pp. 199—439, New York 1931).
1932. Stratigraphical research in Central Mexico (Proceedings on the National Academy of Sciences, vol. 18, no. 7, pp. 487—490, Washington 1932).
1932 a. See Merwin and Vaillant 1932.
1934. The archaeological setting of the Playa de los Muertos culture (Maya Research, vol. 1, no. 2, pp. 87—100, New York 1934).
1935. Chronology and stratigraphy in the Maya area (Maya Research, vol. 2, no. 2, pp. 119—143, New York 1935).
1935 a. Excavations at El Arbolillo (Anthropological Papers of the American Museum of Natural History, vol. 35, part 2, pp. 137—279, New York 1935).
1935 b. Artists and craftsmen in ancient Central America (Guide Leaflet Series, No. 88, American Museum of Natural History, New York 1935).
1935 c. Early Cultures of the Valley of Mexico: results of the stratigraphical project of the American Museum of

Digitized by Google

Natural History in the Valley of Mexico, 1928—1933 (Anthropological Papers of the American Museum of Natural History, vol. 35, part 3, pp. 281—328, New York 1935).

1936. The history of the Valley of Mexico (Natural History, vol. 38, pp. 324—334, New York 1936).

1937. History and stratigraphy in the Valley of Mexico (The Scientific Monthly, vol. 44, pp. 307—324, April, 1937).

VAILLANT, SUZANNAH B. and GEORGE C.

1934. Excavations at Gualupita (Anthropological Papers of the American Museum of Natural History, vol. 35, part 1, pp. 1—135, New York 1934).

VALDIVIESO, EULOGIO.

1929. El matrimonio zapoteca (Quetzalcoatl, vol. 1, no. 1, pp. 21—22, Mexico 1929).

VALENTINI, PHILIPP J. J.

1879. Mexican copper tools: the use of copper by the Mexicans before the conquest (Proceedings of American Antiquarian Society, April 30, 1879, pp. 1—41, Worcester 1879).

VAN DE VELDE, PAUL.

1935. See Steininger and Van de Velde 1935.

VERNEAU, R. et RIVET, P.

1912—1922. Ethnographie ancienne de l'Équateur (Mission du Service géographique de l'armée pour la mesure d'un arc de méridien équatorial en Amérique du Sud. Tome 6). 2 vols. Paris 1912—1922.

VOCABULARIO CASTELLANO-ZAPOTECO.

1893. Vocabulario Castellano-Zapoteco. Publicado por la Junta Colombina de México con motivo de la celebración del Cuarto Centenario del Descubrimiento de América (Diccionario Sapoteco del Balle). México 1893.

WEBER, FRIEDRICH.

1911. Beiträge zur Charakteristik der älteren Geschichtsschreiber über Spanisch-Amerika. Leipzig 1911.

WEITLANER, IRMGARD.

1936. A Chinantec calendar (American Anthropologist, n. s. vol. 38, pp. 197—201, Menasha 1936).

WHEELER, N. H.

1896. Oaxaca and its surroundings (Reprint from Popular Science News, January, 1896).

WIBEL, F.

1887. Analyse einer altmexikanischen Bronze-Axt von Atotonilco (Abhandlungen aus dem Gebiete der Naturwissenschaften, herausgegeben vom naturwissenschaftlichen Verein in Hamburg, Band 10, pp. 15—16, Hamburg 1887).

WICHMANN, MAX.

1885. Über die Metalle bei den altmexikanischen Kulturvölkern. Halle a. S. 1885.

WILKE, GEORG.

1936. Die Heilkunde in der europäischen Vorzeit. Leipzig 1936.

WILLIAMS, J. J.

1852. See Barnard and Williams 1852.

WISSLER, CLARK.

1922. The American Indian. An introduction to the anthropology of the New World. Second edition. New York 1922.

WUNDERLICH, EVA.

1926. Die Bedeutung der roten Farbe im Kultus der Griechen und Römer, Giessen 1926.

WÖLFEL, D. J.

1925. Die Trepanation. Studien über Ursprung, Zusammenhänge und kulturelle Zugehörigheit der Trepanation (Anthropos. Internationale Zeitschrift für Völker—und Sprachenkunde, Band 20, pp. 1—50, Wien 1925).

Digitized by Google

I N D E X

Adán, E., 44.
Adobe, 46—48, 73, 89—90.
Affinity and influence, cultural, 10, 55, 93; America and the Old World, 59—60, 80, 92, 170—171; Mexico and South America, 37, 56, 73, 76, 169; Zapotecs and Cholula, 167; Zapotecs and Mayas, 32, 40, 68, 76, 84—88, 93—96, 118, 165—166; Zapotecs and Teotihuacan, 32, 40, 68, 88, 94, 118, 154, 166—168. *See also* Culture waves, Mitla, Monte Alban.
Africa, northern, trepanning in, 58.
Age of Zapotecan culture, 93—96.
Ahuizotl, 21.
Alabaster, *see* Tecali.
Altar, of Monte Alban, 32.
Alvarado, Pedro de, 20, 26.
Amber, beads of, in Tomb 7, Monte Alban, 36.
Anderberg, C. G. G., acknowledgment to, 9.
Anaesthetic, mushroom used as, 59.
Andrade, Vicente de P., 77.
Anodyne in operations, 59.
Antequera, present city of Oaxaca, 13, 20, 30, 72.
Anthropometrical investigations, 15; at Mitla, 15, 52.
Apenes, Ola, 18, 83.
Arango, C. Luis, 71.
Araucanians, 66.
"Archaic" culture, *see* Early Culture.
Argentina, 60, 73, 156.
Armour, wadded, 65, 134.
Arrows, 25, 116.
Arrow-heads, 31, 63, 70.
Arsandaux, H., 74, 76.
Astronomy, 78; Astronomical observatory, 32; eclipses, 78; planets and fixed stars, 78.
Atlatl, throwing-stick, 64, 116.
Atzcapotzalco, 71, 130.
Aymé, Louis H., 44.
Axayacatl, 21.
Axes, 70; of copper, 72—74, 76; of gold alloy, 169.
Aztecs (Mexican), 15, 18, 24, 33, 36, 41—42, 54—55, 58, 61, 63, 66, 77—78, 80—88, 93, 99—100, 106, 108, 112, 114, 124, 134, 136, 148, 168; chronological relationships of pottery, 93; conquest of Oaxaca, 19—22, of Mitla, 41, 54, of Teozapotlán, 21—22, 41, 89; contributions from the Zapotecs to, 21, 36—37, 60, 62, 70—71, 112, 165; trading expeditions 19—22.

Bacalar, 59.
Baking Pot, British Honduras, 59.
Ball-court, at Monte Alban, 32, 166.
Balsalobre, Gonzalo de, 77.
Bancroft, Hubert Howe, 30, 44, 50, 63.
Bandelier, Adolph F., 44, 58.
Barrios, Captain, 29.
Basler, Adolphe, 116, 118.
Batres, Leopoldo, 31—32, 50, 68, 69.
Bauer-Thoma, Wilhelm, 57.
Beals, Ralph L., 44, 51, 53, 64, 170.
Bells of copper, 53, 66, 116.
Bergsøe, Paul, 75.
Bering Strait, 59, 92, 171.
Beyer, Hermann, 72, 88, 134.
Blom, Frans, 31—32, 59, 90, 104.
Blow-guns, 64—65.
Body-painting, 126, 132.
Boekelman, Henry J., 66.
Bolas, 64.
Bolivia, 58, 60, 73.
Boman, Eric, 59—60.
Bones, carved, in Tomb 7, Monte Alban, 36; needles of, 38.
Boundaries between the tribes, 16.
Bows, 28, 64.
Bracelets, 36.
Brazil, 60, 66.
British Columbia, 58.
Briones, Captain, 24—25.
Bronze, 73—76, 169.
Brummer, Ernest, 116, 118.
Burgoa, Francisco de, 42, 77, 81, 124.

Digitized by Google

Burial, direct, 37, 91; secondary, 37, 91, 170. *See also* Graves.
Buschan, Georg, 58.
Butler, Mary, 68, 110.

Caches, T-shaped copper objects, Xaaga and Monte Alban, 73.
Calendar, 83—88, 167; day-signs, 84—85, 114, 140; origin in Zapotec country, 18, 84; the old still in use in Chinantec villages, 57; year-signs, 85; Mixtecan in the frescoes of Mitla, 42.
Calpulalpan, 68, 168—169.
Canada, 66.
Canseco, Santamaria y, 41.
Cardinal points, colours for, 108; in Zapotec calendar, 83, 87.
Carreño, Alberto M., 58.
Caso, Alfonso, acknowledgment to, 9; cited or mentioned, 11, 16, 31, 33—34, 37—40, 44, 46, 52, 54, 58, 66—67, 71, 75, 81—82, 84—86, 89, 93—96, 100, 104, 116, 118, 126, 136, 138, 142, 150, 154, 162, 166—167.
Caste system, 81.
Centro, Distrito del, 104, 124, 132.
Ceramics, *see* Pottery.
Cerro Montoso, 60.
Chac, 87.
Chalchicomula, San Andrés de, 60.
Chalchihuites, 58.
Champoton, 59.
Chanchan, 50, 169.
Charnay, Désiré, 44.
Chemical analysis, of T-shaped copper object, 73; axe of copper with an admixture of zinc and silver, 74; iron plate, 75.
Chichen Itza, 86, 160, 169.
Chichicastenango, 76.
Chicomoztoc, the seven caves, legendary primeval home of the Aztec tribe, 18, 41.
Chiconauhtla, 93.
Chila, cruciform grave-chambers at, 50.
Chilam Balam, books of, 95.
Chilchotla, Distrito de Teotitlan del Camino, cruciform grave-chambers at, 49.
Chile, 66, 73.
Chinanta, 27.
Chinantecs, 15, 23—24, 50, 63, 160.
Chirinos, Pedro Almírez, 28.
Chimu, 37, 76, 169.
Chiriqui, 74, 169.
Cholula, 18, 22, 60, 167.
Chontals, 15.
Christensen, Bodil, acknowledgment to; 9, cited or mentioned, 57, 61, 79.
Chronology, chronological relationships of Aztec pottery, 93; Zapotecan, correlation with Christian, 95; established by connection with Mayan culture, 93—96; of ceramic periods in Zapotecan culture, 52—53, 93—96, 166, 168. *See also* Mitla, Monte Alban.
Cinnabar, 75.
Clan organization, 81.
Clavigero, Francesco Saverio, 73.
Clément, André, 74, 76.
Clothing, 60—62; of the figures of funeral urns, 100 seq.
Clubs, 65, 134.
Coastoaca (Oaxaca), 24.
Coatlan, 28.
Coatlinchan, 39.
Coatlicue, 54.
Cochineal, 21, 62.
Cocij, time period of 13 days, 84.
Cocijo, the Rain God, 36, 40, 53—54, 78, 83, 85—87, 94; was also a mountain god, 54; face of on funeral urns, 85; funeral urns representing, 36, 40, 53—54, 85, 94, 102, 114, 142, 146—156, 160; stylized jaguar face connected with, 114.
Cocijo-eza, 22.
Cocijo-pij, 22.
Coclé, 70, 169.
Codex Borgia, 81.
Codex Mendoza, 20, 22.
Codex Nuttall, 62, 85.
Codex Telleriano-Remensis, 21, 41.
Codex Vaticanus, 37—38 (Vaticanus A), 21.
Codices, Mexican, 81, 85; Zapotecan, 81—82.
Cogolludo, Diego López de, 73.
Colombia, 74, 156, 158, 169.
Colours, answering to the cardinal points, 108. *See also* Cinnabar, Cochineal, Dye stuffs, Purple-dyeing, Red paint.
Conduit pipes, earthenware, Monte Alban, 38, 67, 89; Teotihuacan, 67; Xoxo, 38, 89; Zaachila, 89.
Conquest, Aztec of Oaxaca, 19—22; Mixtec of Mitla, Monte Alban, Xoxocotlan, Cuilapan, Nazareno, 16, 54, 94; Spanish of Oaxaca, 22—30.
Cooper Clark, J., 85.
Copal, paste made of, Tomb 7, Monte Alban, 36; incense, 77.
Copan, 60, 86.
Copilco, 106.
Copper, 72—77, 116; bells, 53, 66, 116; bells and tweezers in a grave at Mitla, 53, 169; chemical analysis of axes, 73—74; cold-hammering, 74; in eastern North America, 169; gilding, 74—75; metallographical analysis of axe, 74; ornaments in Tomb 7, Monte Alban, 36; pieces of in the eyes of

Digitized by Google

figure on effigy urn, 72; plating, 75; T-shaped copper objects, 72—74, 169; Zapotecan export of copper objects, 165.
Coral, ornaments of, in Tomb 7, Monte Alban, 36.
Córdova, Juan de, 57, 77—78, 84.
Corn, *see* Maize.
Corner, William, 44—45, 48, 61, 120.
Cortés, Hernan, 14, 20, 22—24, 26—30, 63, 70, 71.
Cotton garments, 23, 25.
Cremation, 91—92.
Créqui-Montfort, G. de, 74.
Cruciform grave-chambers, 49, 88; at Chila, 50; Chilchotla, 49; Ejutla, 49; Guiaroo, 49, 52; Mitla, 45—46, 49—50, 52—54; Monte Alban, 34, 40, 54; Ojitlan, 49; origin of, 88—89.
Cuetlaxtlan, 60.
Cuetzálan, 61.
Cuicatecos, 84.
Cuicatlan, 59.
Cuicuilco, 106.
Cuilapan, 16, 38—39, 54, 79, 90, 94, 108, 154.
Culture periods, at Mitla, 52—53; at Monte Alban, 18, 33, 40, 52—53, 68, 93—96, 166—167.
Culture waves and trading intercourse, legends of invasions, 58—59, 92, 165—171; Mexico and South America, 56, 60—61, 66, 169; South America and Mexico, 37—38, 56, 61, 63, 67—68, 72—73, 76, 166, 169—170. *See also* Affinity, Aztecs, Mitla, Monte Alban.
Cummings, Byron C., 106.
Cunas, 92, 169.

Dahlén, Anna Lisa, acknowledgment to, 9.
Dances, religious, 72, 77, 79.
Danzel, Theodor-Wilhelm, 69.
Day-signs, 84—85, 114, 140.
Dental surgery, 59.
Díaz del Castillo, Bernal, 20, 22—25, 27—30, 63—65, 71, 75, 146.
Dieseldorff, E. P., 110, 118, 124, 158, 162, 168.
Dietschy, Hans, 58.
Diguet, M. Léon, 49.
Dog, bones of, in tombs, Monte Alban, 38; Xoxo, 92; man with dog mask, furnerary urn, Mitla, 54; guide of the deceased, 92, 171.
Doutrelaine, M., 44.
Drainage arrangements, Mitla, 44; Monte Alban, 31—32. *See also* Conduit pipes.
Dress, cotton garments, 23, 25. *See also* Clothing.
Dupaix, Guillelmo, 31, 44, 50.
Dye stuffs, 170.

Eagle, skeleton of, beneath stela No. 10, Monte Alban, 32.
Early Cultures of the Valley of Mexico, 11, 59, 70, 80, 94, 106, 165—166.
Ear-ornaments, 36, 39—40, 114, 122, 128, 134, 138, 140, 150, 162.
Ecuador, 68, 73, 156, 158, 169—170.
"Eight Deer", 85.
Ejutla, 15, 169; cruciform grave-chambers at, 49.
Engerrand, G., 59.
Ethnographical researches in Oaxaca, notes about, 57.
Esmeraldas, 60.
Etla, and Distrito de, 13, 89—90, 102, 116, 120, 128, 130, 158.
Europe, trepanning in, 58.

Fat God, 134.
Feathers, mantles adorned with, 60—61; feather head-dresses illustrated on funerary urns, 61, 77, 100 seq.; collar of, 138; ornaments, article of commerse, 165; Quetzal bird, feathers of, 100.
Fergusson, Erna, 62.
Fernandez Ledesma, Gabriel, 110.
Figueroa, Diego de, 29, 71.
Figurines, or heads of clay, 10, 39, 61, 65—66, 80, 154.
Fish-hooks of gold, 169.
Flowers in religious ceremonies, 114.
Fortifications, the fortified hill at Mitla, 47.
Four cardinal points, 87; their deities, 83, 108; in Zapotec calendar, 83.
Freeman, Leonard, 59.
Frescoes, at Mitla, 42, 44, 46, 52, 80—81, 90; Monte Alban, 168; Teotihuacan, 167; Xoxo, 168.
Friederici, Georg, 71.
Fuhrmann, Ernst, 124, 128, 136, 138, 162.
Funeral customs, 88—92. *See also* Burial, Graves, Funerary urns, Red paint, Secondary burial.
Funerary urns, 10, 51, 98—163, 166—167; at Cuilapan, 154; Mitla, 53—54; Monte Alban, 36, 38—40, 90, 154; Xoxo, 90—91, 142; breast ornaments correspond among different figures, 122; classification, 102, 110, 130, 136, 138, 156, 158, 162; conventionalism, 99 seq.; day-signs on, 85, 114, 140; face of Cocijo, 85; feather head-dresses illustrated on, 61, 77, 100 seq.; frontal character, 128, 140; hieroglyphs on, 82, 85—86, 116, 118, 122, 126, 136, 138, 140, 150; highest development during Period IV of Monte Alban, 52, 94; in-fresco painted, 40, 67; in grave-chambers, 90, 100; jaguars

Digitized by Google

head on frontlets, 86, 114, 122, 124, 128, 130, 138, 140, 150, 154; largest and smallest in the collections of the Museum, 154; manufacture centralized in certain localities, 99; mutilated at the time of deposit, 38, 91; naturalistic representations, 102, 104; 106, 110, 116, 120, 122, 126, 140, 146, 162; never painted before firing, 108; painted red, 54, 92, 108, 136, 160, 162; pieces of copper in the eyes of figure on, 72; publications about, 10; purpose, 90—91, 100, 144, 152; representing Cocijo, 36, 40, 53—54, 85, 94, 102, 142, 146—156, 160; representing gods, 100 seq.; resemblance to the stelae, 82, 136; series of identical urns, 38, 90, 136, 142, 152; showing mode of dress and ornament, 60, 100 seq.; stylized jaguar faces, 86, 114, 122, 124, 128, 130, 138, 140, 150, 154; ware, quality of, 99, 108, 116, 136; zoomorphic, 102, 158—162.
Fürst, Carl M., 58.

Gage, Thomas, 13, 63.
Gamio, Manuel, 106, 130, 160.
García y Cubas, Antonio, 14.
García Vega, Augustin, 44.
Geochemistry, 76—77.
Gilding, beads of clay, 75; copper and silver, 74, 75.
Glazed ware, 67.
Gods, 77—80, 82, 85—88, 100, 102, 106, 108, 118, 124, 138, 148, 162, 167—168. *See also* Chac, Coatlicue, Cocijo, Fat God, Pitào-Cozòbi, Quetzalcoatl, Tezcatlipoca, Tlaloc, Ueueteotl, Xipe.
Gold, 19, 21, 23, 25—27, 29, 36—38, 53, 70—77, 165, 169—170; teeth decorated with fillings of, 59—60.
Goodman, J. T., 76, 95.
Gordon, George Byron, 47.
Graves, 88—92; at Cuilapan, 90, 154; Mitla, 41, 52—53, 67, 74—75, 88, 95; Monte Alban, 31, 34—40, 58, 63, 66—67, 71—72, 76, 88—92, 168—169; Tehuacan, 18, 68; Xoxo, 89—92, 136, 142, 160, 168. *See also* Burial, Cruciform grave-chambers, Funerary urns, Secondary burial.
Grave-plundering, by Spaniards, 29, 71, 89; by Mixtecs, 39.
Greenman, Emerson, F., 58, 89.
Grijalva, Juan de, 75, 169.
Gualupita, 60.
Guatemala, 62, 68, 76, 144, 165, 168.
Guatemoc, 30.
Guazaqualco, 27.
Guaxaca, Guaxacaque (Oaxaca), 26—27.
Guiana Indians, 92.
Guiard, Émile-Jean-Élie, 58.
Guiaroo, cruciform structures at, 49, 52.
Guthe, Carl E., 60.
Guzman, Eulalia, 41.

Hammarstedt, N. E., 171.
Hamy, E. T., 59.
Head-dresses of plumes, on funeral urns, 61, 77, 100 seq.; still used, 77, 79.
Hematite, teeth adorned with, 59, 70, 90.
Hernandez, Francisco, 58.
Herrera, Alonzo de, 29.
Herrera, Antonio de, 63.
Hieroglyphs, 81—88, 166; day-signs, 84—85, 114, 140; decipherment, 82; inscriptions at Cuilapan, 90; Mixtecan in the frescoes of Mitla, 42; of Zapotecan type at Monte Alban, 39, 168; on funeral urns, 82, 85—86, 114, 116, 118, 122, 126, 136, 138, 140, 150; on sculptured slabs, 82—83, 85, 87—88, 136, 150, 166—167; place-names, 88, 136; stairway-like signs, 87—88; year-signs, 42, 85.
Hinsdale, W. B., 58.
Historical data relating to the Zapotecs, 19—30.
History, ceramic material in relation to, 93—96.
Holmes, William H., 44—49, 74.
Holmul, 59.
Holstein, Otto, 50.
Honduras, 75.
Hrdlička, Aleš, 58.
Huamelula, 62.
Huave, 15, 170.
Huehueteotl, *see* Ueueteotl.
Huichol, 134, 162.
Hultgren, Axel, 74.
Human head in animal jaws, 130.
Hunchback figures, 132.

Ihering, Hermann von, 59.
Incense-burners, 10, 38, 67, 90—91, 94, 130, 158, 167.
In-fresco painted ware, 40, 67.
Iron plate, found in a grave at Mitla, 53; chemical analysis of, 75—76.
Iron pyrite, teeth decorated with fillings of, 59.
Iroquois, 89, 92.
Ixtlán, 169.
Izikowitz, K. G., 66.

Jacona, 75.
Jadeite, 19; ancient quarries, 36—37, 70; article of commerse between Oaxaca and the Valley of Mexico, 165—166; objects made of, 32, 38, 70, 90, 92; teeth adorned with, 59.
Jaguar, funerary urns, 158—162; harvest-god, 162; head as head-dress on stela, 136; head

Digitized by Google

on frontlets of funerary urns, 86, 114, 122, 124, 128, 130, 138, 140, 150, 154; skeleton of beneath stela No. 10, Monte Alban, 32; specific god of Monte Alban, 162, 167.
Javelins, the Mixtecs' were poisoned, 64.
Jet, beads of, in Tomb 7, Monte Alban, 36.
Jijón y Caamaño, J., 169.
Joyce, Thomas A., 44, 64, 160, 169.
Juárez, Benito, 16, 30.

Kidder, A. V., 168.
Killing, practice of "killing" clay vessels, 38, 91.
Koppers, W., 92.
Krickeberg, Walter, 11, 59, 162, 169.
Kroeber, A. L., 169.

Lachixola, 57.
Labna, 60.
Lacandones, 66.
Laguna de Terminos, 19—20.
Lances, 25, 27—28, 63, 65.
Landa, Diego de, 59.
Languages of Oaxaca, 15, 172.
Larsen, Helga, 57, 69, 83.
Lasch, Richard, 59.
Lastres, Juan B., 58.
Latitude of Mitla, 41; Monte Alban, 30.
Lehmann, Walter, 16, 41, 44, 50, 59, 74, 81, 118, 154, 158, 160, 168—169.
Leijer, Magnus, acknowledgment to, 9.
León, Nicolás, 44, 59, 74.
Lindblom, Gerhard, acknowlegdment to, 9; mentioned, 60.
Linné, S., 39, 68, 71, 78, 89, 91, 93, 106, 108, 154, 166, 168—169.
Lioo-baa, 41.
Loltun, 60.
Long count, Mayan, 95.
Longitude of Mitla, 41; Monte Alban, 30.
Lópes Tenorio, Francisco, 72.
Lorena, Antonio, 58.
Lothrop, Samuel Kirkland, 37—38, 63, 68, 76, 94, 165, 168—169.
Lumholtz, Carl, 58.

McBride, George McCutchen, 13.
Macuilxóchitl, 54.
McDougall, Elsie, acknowlegdment to, 9; cited 64—65.
McGee, W. J., 58.
Maize, ceremony for ensuring a good harvest, 80, 171; cobs etc. on funerary urns, 116, 124, 138, 162.
Malinaltepeque, 23.
Marajó Island, 68.
Marin, Luis, 25.
Marquina, Ignacio, 44.
Martínez Baca, Francisco, 15.
Martínez Gracida, Manuel, 62, 74.
Martínez Hernandez, J., 76, 95.
Masks, at funeral urns, 106 seq.; man with animal mask, funerary urn, Mitla, 54; of Cocijo on funerary urns, 85, 146—156; of gold, Tomb 7, Monte Alban, 36, 39; used at dances and ceremonies, 148.
Mason, J. Alden, 10, 64, 72, 116, 130, 134.
Mata, Juan de, 16.
Mathematics, knowledge of, 83.
Maximilian, Emperor of Mexico, 30.
Mayas, 16, 18, 32—33, 40, 50, 52—53, 55—56, 59—60, 66, 68, 73, 76, 78, 81—89, 92—96, 104, 108, 118, 160, 162, 165—167.
Mayer, Brantz, 44.
Mazatecs, 15, 50.
Mechling, William H., 15.
Medicine, Indian, 57.
Medina, José Toribio, 72—73.
Melanesia, trepanning in, 58—59.
Mendieta, Gerónimo de, 42.
Mercury, 74—76.
Merwin, Raymond E., 59, 68.
Metals and metallurgic technique, 70—77, 116; chemical analysis of copper axes, 73—74; gilding, 74—75; golden objects from Monte Alban derived from Peru, 37—38, 72, 76, 169; metallographical analysis of copper axe, 74; metal-working technique invented in South America, 37, 72, 76, 169; T-shaped copper objects, 72—74. *See also* Bronze, Copper, Gold, Iron, Silver, Tin, Zinc.
Metallographical analysis of copper axe, 74.
Metates and manos, 70, 91; in a grave at Mitla, 53.
Mexico Valley, 16, 18, 70—71, 80, 93—95, 106, 165—166. *See also* Early Cultures.
Miahuatlan, 15.
Michigan, 58.
Michoacan, 58, 73, 75.
Mictlan, 41—42.
Mictlan Cuauhtla, 20.
Mirrors, 170.
Mississippi Valley, 66, 158.
Mitla, 11, 16, 21, 34—35, 40—54, 57, 59, 65, 67, 69, 73—75, 80—81, 88—90, 93, 95, 142, 166; anthropometrical investigations at, 15, 52; ceramics, 51—53, 67, of Mixtecan type, 53; chronological sequence between the buildings, 51—54, 95; connections with Monte Alban, 52, 53, 95; conquest by the Aztecs, 21, 41, 80, by the Mixtecs, 16, 54; cruciform structures, 45—46, 49—50, 54; description of, 41—54; foundation, 54, 95; frescoes, 11, 42, 44, 46, 52, 80—81, 90; geographic position, 41; Mixtecan influence,

Digitized by Google

42, 46, 52—53, 80; periods of development, 52—53; resemblance with Uxmal, 50, 166; stone mosaic, 44, 47—51, 53, 69, 166; stone tools, 48; tombs, 41, 52—53, 88. *See also* Affinity, Cultural waves, Funerary urns, Monte Alban, Pottery.
Mixes, 27, 29.
Mixteca Alta, 41, 74.
Mixtecs, 14—15, 20, 36—37, 39—40, 42, 46, 52—54, 60, 63—64, 71, 75—76, 80—82, 85—86, 94, 136; ceramics at Mitla, 53; at Monte Alban, 36, 39; conquest of Cuilapan, Xoxo and Nazareno, 39, 54, of Mitla, 54, Monte Alban, 16, 39, 52, 54; cultural influence in Mitla, 42, 46, 52; origin of objects in Tomb 7, Monte Alban, 37; plundered Zapotec graves at Monte Alban, 39; population, 14—16, at Mitla, 15, 52; at Xoxocotlan, 16.
Mixtequilla, 60.
Moctezuma Ilhuicamina, 20.
Mogotes (mounds), 89—90.
Money, T-shaped copper objects, 72—73, 169.
Monte Alban, 16, 30—40, 46, 52—54, 57—59, 63, 67—68, 70—73, 76, 78, 81—82, 85, 88—96, 104, 108, 136, 154, 162, 166—169: absence of arrow- and spear-heads, 31, 37, 63; affinity with Mayan and Teotihuacan culture, 32, 40, 93—96, 166—168; architectural sequence, 33—34; ceramics 38—40, 52, 67—68, 169; conquest by the Mixtecs, 16, 39, 52, 54; correspondences with Mitla, 33—34, 40, 54, 95; description of, 30—40; frescoes of Tomb No. 104, 168; geographic position, 30; gold objects in Tomb 7 derived from Peru, 37—38, 72, 76, 169; graves plundered by Mixtecs, 39; periods of development, 18, 33, 40, 52—53, 68, 93—96, 166—167; pre-Zapotec period, 33; specific god of, 162; tombs, 31, 34—40, 88—92, 168. *See also* Affinity, Culture waves, Funerary urns, Mitla, Pottery.
Montell, Gösta, 57, 61.
Mosaic, turquoise, in Tomb 7, Monte Alban, 36; shell, obsidian, jadeite and hematite at Xoxo, 90. *See also* Stone mosaic.
Motolinía, Toribio de Benavente, 42.
Moulds, 68, 108, 122, 150, 152, 154.
Mounds, 89—91.
Muelle, Jorge C., 50.
Muñiz, Manuel Antonio, 58.
Museo Nacional de Mexico, 60, 64, 89, 126, 140, 158, 160, 169.
Musical instruments, 66. *See also* Bells of copper, Rasping bones, Shell trumpets.

Narvaez, Panfilo de, 24, 63.
Nasca, 61.
Nazareno, 16, 39, 54, 94.
Necklaces, 36—37, 70, 116, 134, 138, 140.
Needles, 61; of bone, 38.
Negative painting, 67.
Negro influence, filed teeth in Panama and Brazil, 60.
Neuburger, Max, 58.
New Guinea, trepanning in, 58.
Nicoya, 63.
Noack, Th., 92.
Nochixtlan, 60.
Noguera, Eduardo, 81, 89, 110, 124, 158, 167.
Nonoalco, 93.
Nordenskiöld, Erland, 37, 56, 58, 63, 73—74, 76, 169.
Numerals, 83, 140, 142, 156, 166.
Nuttall, Zelia, 32, 62—63, 78, 85.
Nykvist, Gunnar, acknowlegdment to, 9, 98.

Oaxaca, city of, 15, 26, 30, 66, 99 seq.; geographical conditions, 13; languages of, 15; population, 14.
Ober, Frederick A., 44.
Obsidian, 36, 70, 90; teeth adorned with, 59.
Ocotlan, 15, 64—65, 169.
Ojitlan, Distrito de Tuxtepec, cruciform grave-chambers at, 49.
Old God, *see* Ueueteotl.
Old World, cultural transmission from, 59—60, 80, 92, 170—171.
Orchard, William C., 75.
Origin of the Zapotecs, 41.
Orozco, Francisco de, 26.
Otates, 60.
Otomí, 114.
Oviedo y Valdés, Gonzalo Fernandez de, 74.

Paganism, in colonial time, 77.
Palenque, 59, 88.
Panama, 37, 60, 70, 169.
Paracas, 58.
Parsons, Elsie Clews, 57.
Paso de Coyoluca, 60.
Pauer, Paul Siliceo, 15, 57, 61.
Paulson, A. E., acknowledgment to, 9; collections presented to the Museum, 10, 12, 98—99, 126.
Peabody, Ch., 92.
Pearls, in Tomb 7, Monte Alban, 36.
Peñafiel, Antonio, 15, 134, 160.
Peñoles, Distrito de Etla, 120.
Pérez, Eutimio, 30.
Peru, 50, 58, 60—61, 63, 68, 70, 73, 75—76, 92, 99, 132, 156, 170; gold objects in Tomb 7, Monte Alban, derived from, 37—38, 72, 76, 169; legends of invasions from the north,

Digitized by Google

169; metallurgic techniques introduced from, 76, 169. *See also* Culture waves.
Petlapa, 57.
Philippine Islands, teeth decorated with fillings of gold, 60.
Phillips, George Brinton, 73.
Picture writing, 81—88. *See also* Hieroglyphs.
Piedras Negras, 86.
Pikes, *see* Lances.
Pipiles, 18, 168.
Pisagua, 169.
Pitào, name of signs of four tonalamatl divisions, 83.
Pitào-Cozòbi, god of harvests, 78, 80.
Plancarte y Navarrate, Francisco, 75.
Plating, copper and bronze, 75—76.
Pohorilles, Noah E., 59.
Poison, the javelins of the Mixtecs were poisoned, 64.
Pokoman, trading intercourse between Zapotecs and Pokoman, 68.
Pollock, H. E. D., 32.
Popol Wuh, 59.
Population, estimation of, 14—16.
Pottery, 66—69; Mitla, 51—53; Monte Alban, 38—40, 52, 67—68, 169; Analysis of types at Mitla, 51—52; chronological relationship of Aztec pottery, 93; chronology of ceramic periods in Zapotecan culture, 93—96; conduit pipes, 38, 67, 89; cylindrical jars, 67, 94; double jars or twin vessels, 67—68, type imported from Peru, 169; "flower-pot"-shaped vessels, 67, 94; fusiform stands, 40, 67, 94; glazed ware, 67; in fresco painted, 40, 67; in the Paulson collections, 10; jaguar-foot type, vessels of, 154; "killing", 38, 91; lids, 67; negative painting, 67; painting before firing unknown to the Zapotecs, 108; periods at Monte Alban, 40, 52, 93, 166—167; polychrome, Mixtecan at Mitla, 53, at Monte Alban, 36, 39, Zapotecan, 40; Q complex, 52, 94—95; relief carvings, 68, 94; roasting-dishes, 91; shoe-shaped, 69; spiky projections as ornamentation, geographical distribution in America, 158; tea-pot-shaped vessels, 67; tripods, 67; types, 40, 67—69, 90—91, 94, 154, 156, 169; vessels with a lip, 67, 94. *See also* Funerary urns, Incense-burners, Moulds.
Priests, 77, 81, 85, 100, 102, 138, 152.
Purple-dyeing, 62—63, 169.

Q complex, 52, 94—95.
Quetzalcoatl, 30, 42, 51, 80, 132, 148.
Quetzalpatzactli, 100.
Quezaltenango, 168.
Quiegolani, 80.
Quirigua, 60.

Radin, Paul, 57, 81.
Raft, carrying trade gods off the coast of Ecuador, 170.
Rain ceremonies, 66.
Rain God of the Aztecs, *see* Tlaloc.
Ranchito de las Animas, 68.
Rangel, Rodrigo, 26—28.
Rasping bones, 53, 66.
Rattles, hollow figurines, 66.
Red paint, 32, 54, 91—92, 108, 136, 160, 162, 171.
Religious conceptions, 77—80; sacrifices, 36, 77—78; ceremony for ensuring a good harvest, 80, 116, 124, 138, 171. *See also* Gods, Sacrifices.
Retzius, Gustaf, 58.
Rickards, Constantine George, 44, 89, 124, 146, 162.
Ricketson, Oliver, Jr., 68.
Rings, 36, 72.
Rivet, Paul, 37, 73—74, 76.
Roasting-dishes, earthenware, 91.
Rock-crystal, vessels of in Tomb 7, Monte Alban, 36, 70; teeth decorated with fillings of, 59.
Rubín de la Borbolla, D. F., 44, 52, 54, 66, 93.
Ruiz, Bartolomé, 170.
Röck, F., 150, 169.

Sacrifices, animals and fruits, 77; clay vessels as mortuary offerings, 89—90; human, 77; penitential rites, 36, 77—78; skulls covered with clay bowls, 89.
Sahagun, Bernardino de, 22, 39, 42, 58, 66, 78, 132; makes no mention of the Zapotecs, 19.
San Agustin, Distrito del Centro, 104, 132.
San Bernardo Mixtepec, Distrito de Zimatlan, 102, 118.
San Felipe Tejalapa, Distrito de Etla, 102, 116.
San Francisco Telixtlahuaca, Distrito de Etla, 158.
San Lorenzo Albarradas, Distrito de Tlacolula, 106, 126, 140, 142, 146.
San Lorenzo Cacaotepec, Distrito de Etla, 130.
San Salvador, 69, 148, 165, 168.
Sandals, 110, 146.
Sandoval, Gonzalo de, 24—25.
Santamaria y Canseco, 41.
Saper, Karl, 14, 168.
Saville, Marshall H., 16, 37—39, 44, 49—50, 52, 59, 64, 69, 71, 73, 75, 89—92, 108, 110, 124, 136, 142, 154, 162, 168.
Schellhas Paul, 87, 110, 158.
Schmidt, Max, 50.
Schmieder, Oscar, 57.

Digitized by Google

Secondary burial, 37, 91, 170.
Segura de la Frontera, 20, 23—24, 26.
Seibal, 59.
Seler, Eduard, 10—11, 15, 18, 21—22, 39, 41—42, 44, 46, 64—66, 73—74, 77, 80—81, 84, 89, 100, 110, 118, 124, 132, 134, 160, 162.
Seler-Sachs, Caecilie, 57.
Serpent, figures and elements, 128, 134, 136, 146, 152, 156.
Shells, perforated, found in a grave at Mitla, 53, 142; mosaics of in tombs at Xoxo, 90; objects of in tombs at Monte Alban, 38.
Shell trumpets, found in Tomb 7, Monte Alban, 66; geographical distribution in America, 66.
Shields, 25, 65, 134.
Shoe-shaped vessels, 69.
Silver, 72, 74—75, 170; vessels of in Tomb 7, Monte Alban, 36.
Skulls covered with clay bowls, 89.
Slings, 28, 64, 146.
Smith, Harlan I., 58.
Social organization, 81.
Sologuren, Fernando, 89.
Southwestern United States, 158.
Spear, *see* Lances.
Spear and throwing-stick, *see* Atlatl, Lances.
Spear-heads, 25, 27, 31, 63, 70.
Spiky projections, distribution and significance of ornamentation, 158.
Spinden, Herbert J., 76, 85—86, 88, 95, 152, 166.
Spindle-whorls, 61.
Squier, E. G., 58.
Stamps, cylindrical, 132.
Starr, Frederick, 14—16, 44, 57, 77.
Steininger, G. Russell, 57.
Stelae, 32, 69, 82, 85, 88, 92, 94—95, 136, 150, 166—167.
Stone mosaic, at Mitla, 45, 47—51, 53, 69, 166; absent at Monte Alban, 35; resemblance with Uxmal, 50, 166, with Chanchan, 50, 169.
Stone, arrow- and spear-heads, 25, 27, 31, 63, 70; axes, 70; bark-beaters, 10, 70; figurines, 10, 32, 92; sculptures, 10, 69; stelae and reliefs, 32, 69, 82—83, 85, 87—88, 92, 94—95, 136, 150, 166—167; technique of work in Mitla, 48, 69; tools, 48; vessels, 92. *See also* Hematite, Jadeite, Metates, Obsidian, Rock-crystal, Tecali, Turquoise.

Strebel, Hermann, 68—69.
Suchatengo, 128.
Sumatra, teeth decorated with fillings of brass, 60.
Swanton, John R., 15.

Tacamarca, 60.
Tales, points of contact between Mayan and Zapotecan, 167.
Talpan, Distrito del Centro, 124.
Tamazulapa, 23—24.
Tarahumara, 58.
Tarascans, 66, 75.
Tecali, Puebla marble or onyx marble, 36, 70, 160.
Tecolpa, 60.
Teeple, J. E., 76.
Tehuacan, grave at, containing artefacts of Teotihuacan and Zapotecan type, 18, 68.
Tehuantepec, 14—15, 21—22, 26, 61—62, 71, 120, 170.
Tehuantepec, Isthmus of, 75.
Tello, Julio C., 58.
Temazcalli, 57.
Tempsky, G. F. von, 44.
Tenayuca, 93.
Teniz, now Tanetze, Distrito de Villa Alta, 25.
Tennessee, 132.
Tenochtitlan, 20—21, 23—24, 26—27, 60, 62—63.
Teopancaxco, 167—168.
Teotalcingo, 57.
Teotihuacan and Teotihuacan culture, 31—33, 51—52, 56, 60—61, 88—89, 93, 99, 106, 144, 169; affinity or connection with the Mayan, 32, 68, 76; affinity with the Zapotecan, 18, 32, 34, 40, 52, 67, 88, 93, 118, 130, 136, 154, 160, 166—168; ceramics at Monte Alban, 40, 68.
Teotitlan del Camino, 18, 20.
Teotitlan del Valle, 54.
Teozapotlán, 16, 52, 54, 89; conquest of by the Aztecs, 21—22, 41. *See also* Zaachila.
Tepeaca, 18, 20, 23, 26.
Tepeopulco, 19.
Tepetlaztoc, 37.
Termer, Franz, 166, 168.
Texcoco, 93.
Textile art, 60—63, 170.
Tezcatlipoca, 80.
Tezozomoc, Hernando Alvarado, 20.
Thomas, Cyrus and Swanton John R., 15.
Thompson, J. Eric, 76, 95, 108, 124, 167, 169.
Throwing-sticks, *see* Atlatl.
Ticoman, 106.
Tikal, 59.
Tiltepec, Distrito de Ixtlán or Distrito de Choapan, 25, 29.
Tin, 74.
Tlacolula, and Distrito de, 13, 15, 54, 65, 106, 116, 126, 140, 142, 146.
Tlaloc, 54, 78; variations in representations, 85—86, 148. *See also* Cocijo.

Digitized by Google

Tlapallan, 42.
Tlatelulco, Santiago de, 19.
Tlaxiaco, Mixteca Alta, 74.
Tobacco, used as incense, 77.
Tonalamatl, 39, 83—85, 166—167.
Tonalpohualli, 166.
Tooth-mutilation, 59—60, 70, 90, 104, 142, 150, 170.
Torquemada, Juan de, 42, 72—73.
Totonacs, 11, 69, 114; object from found at Monte Alban, 40.
Toys, in a grave at Monte Alban, 38; whistles sold in the markets of Oaxaca City, 66.
Trading, 19—20, 22, 165—166, 170; between Zapotecs and Pokoman Indians, 68; during the Early Cultures, 70, 165—166; fish-hooks of gold from Colombia, 169; glazed ware at Monte Alban and Mitla, 67—68; golden objects in Chichen Itza imported from Chiriqui and Colombia, 169; golden objects from Monte Alban derived from Peru, 37—38, 72, 76, 169; Yucatecan carved slateware at Monte Alban, 68; Zapotecan export of copper objects, gold, jade, etc., 165.
Trepanning, 58—59, 170; trepanned cranium found at Monte Alban, 58.
Tresses, coiffure of false tresses, 61, 118, 120.
Tubes, earthenware, Monte Alban, 38, 67, 89; Teotihuacan, 67; Xoxo, 38, 89; Zaachila, 89.
Tuchitepeque, now Tuxtepec, 23.
Tula, 42.
Tumis, T-shaped copper objects, 73, 169.
Tupinamba, 66.
Turban, head-dress resembling, 61, 118, 120, 140, 169.
Turquoise, mosaic in Tomb 7, Monte Alban, 36; occurred in Oaxaca, 37; teeth decorated with fillings of, 59.
Tututepec, 26.
Tuxtepec, 19—20, 23—25, 63, 98, 160.
Tzimin Kax, Southern Cayo District, British Honduras, 59.
Tzintzuntzan, 60.

Uaxyacac, 20—21.
Uaxactun, 18, 59.
Ueueteotl, the Old God, oldest identifiable Mexican deity, 36, 78, 80, 106, 122, 144.
Uhle, Max, 169.
Ulua Valley, 60, 75.
Uxmal, 50, 52, 86, 166.

Vaillant, George C., 11, 18, 52, 59, 68, 70, 76, 93—96, 106, 134, 150, 166, 168.
Van de Velde, Paul, 57.
Venezuela, 156.
Verneau, R., 73.
Villa Alta, 15, 57.

Wadded armour, 65, 134.
Wall-paintings, *see* Frescoes.
Washington, 58.
Weapons, absence of at Monte Alban, 31, 37, 63; *see* Arrows, Atlatl, Axes, Blow-guns, Bolas, Bows, Clubs, Javelins, Lances, Slings, Wadded armour.
Weitlaner, Irmgard, 57.
Whistles, 10, 66.
Wichmann, Max, 74.
Wilke, Georg, 58.
Wood, in constructions, 48—49.
Wooden idol, from a grave at Tehuacan, 68.
Wunderlich, Eva, 92.
Wölfel, D. J., 58—59.

Xaaga, east of Mitla, 73.
Xaltepec (Jaltepec), Distrito de Choapan, 25.
Xicalango, on Laguna de Términos, 19.
Xipe Totec, clay heads from Teotihuacan, 39; Teotihuacan, 154; gold mask representing, Tomb 7, Monte Alban, 36; incense-burner in form of, Tomb 58, Monte Alban, 38; originally belonged to Oaxaca, 78.
Xiuhtecutli, *see* Ueueteotl.
Xolalpan, Teotihuacan, 39.
Xoxo, 37—39, 54, 59, 89—90, 92, 94, 136, 142, 160, 168.
Xoxocotlan, 16, 89.

Yalalag, 61.
Yaxchilan, 86.
Yautepec, 80.
Year-signs, 85; Mixtecan in the frescoes of Mitla, 42.
Yoo-paa, 41.
Yoxiha, 59.
Yucay, trepanned cranium from, 58.

Zaachila, 13, 16, 38, 41, 54, 82, 89—90, 118. *See also* Teozapotlán.
Zacapú, 60.
Zacatula, 23.
Zacualpa, 76.
Zapotecs, languages, 14—16; origin of, 40; transmitted culture-generating impulses, 18; capital, *see* Zaachila, and Teozapotlán.
Zimatlán, and Distrito de, 13, 15, 102, 118, 169.
Zinc, 74.
Zoque, 15.
Zopo cave, 59—60.
Zoquitlan, Distrito de Tlacolula, 64—65.
Zuzula, 24.

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Date Due

RUL NOV 22 1968

DEC 1 1972

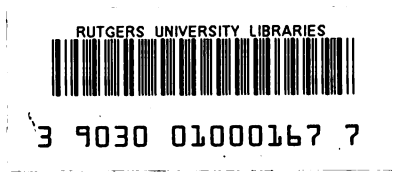
DATE DUE FEB 2 1987

DATE DUE MAY 12'87

Demco-293

Digitized by Google

810788



F134
.L62

Digitized by Google

Digitized by Google